

# **Breast disorders**

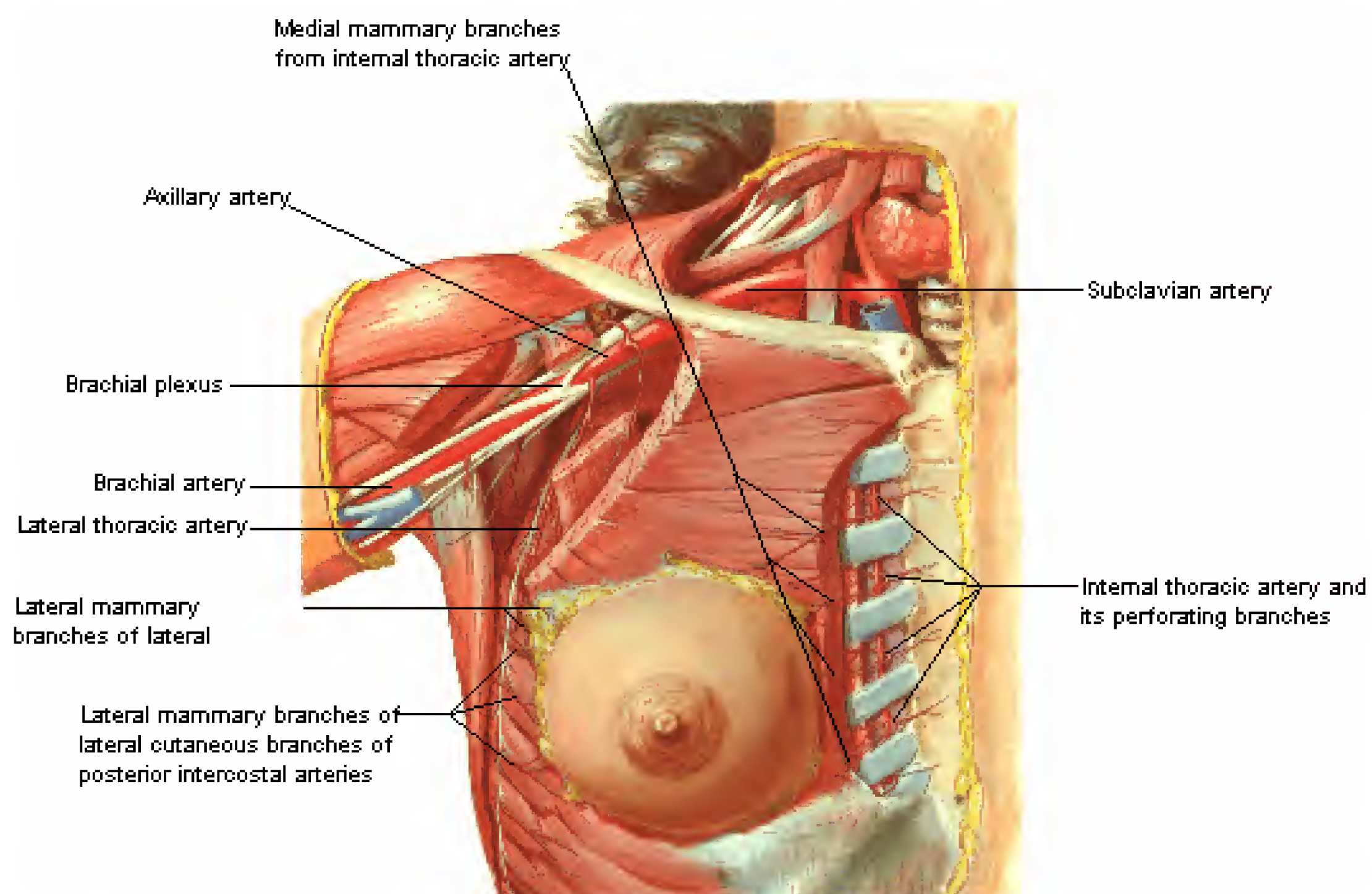
# BREAST DISORDERS

## EMBRIOLOGY

**The Breast** is a modified sweat gland which is developed from an **ectodermal ridge " mammary ridge "** which extends between the anterior pectoral fold & the groin. **Normally** it disappears all through except in the front of the chest where solid columns of epithelia pass deeply → **milk duct**



## ANATOMY



### \* **Extent**

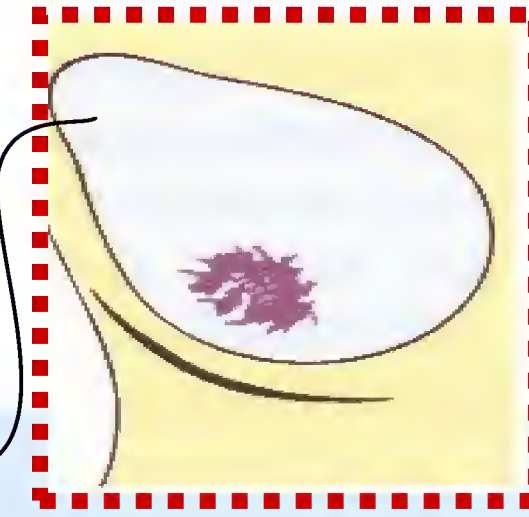
- **Above** : at 2<sup>nd</sup> rib.
- **Below** : at 6<sup>th</sup> rib.
- **Medially** : at lateral border of sternum.
- **Laterally** : at anterior axillary line.



The actual extent of the breast is important for the surgeon who aims at removal of the whole breast for malignancy.

**SO It actually extends:**

- **Above** to the clavicle.
- **Below** to below the costal margin.
- **Medially** to the middle line.
- **Laterally** to the posterior axillary line.

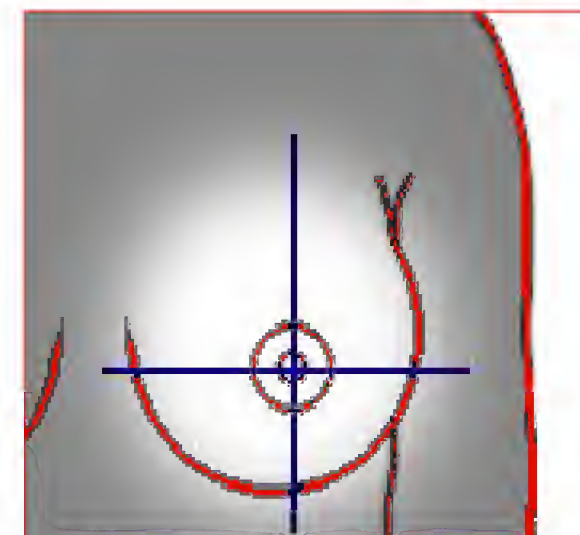


**Axillary tail of Spence : ( 3<sup>rd</sup> rib )**

It is a prolongation from upper outer part of gland up to axilla. it is considered the only part which is deep to pectoral fascia through **foramen of Langer**. so it drains directly into posterior axillary L.Ns

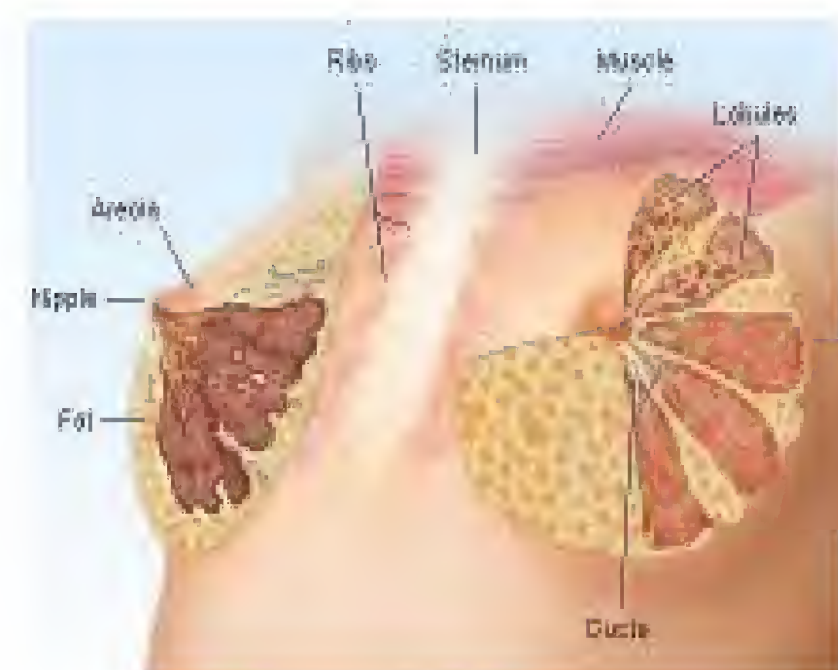
#### \* **Areas** ( 6 areas )

- Upper inner quadrant
- Upper outer quadrant
- Retro-areolar part
- Lower inner quadrant.
- Lower outer quadrant.
- Axillary tail.

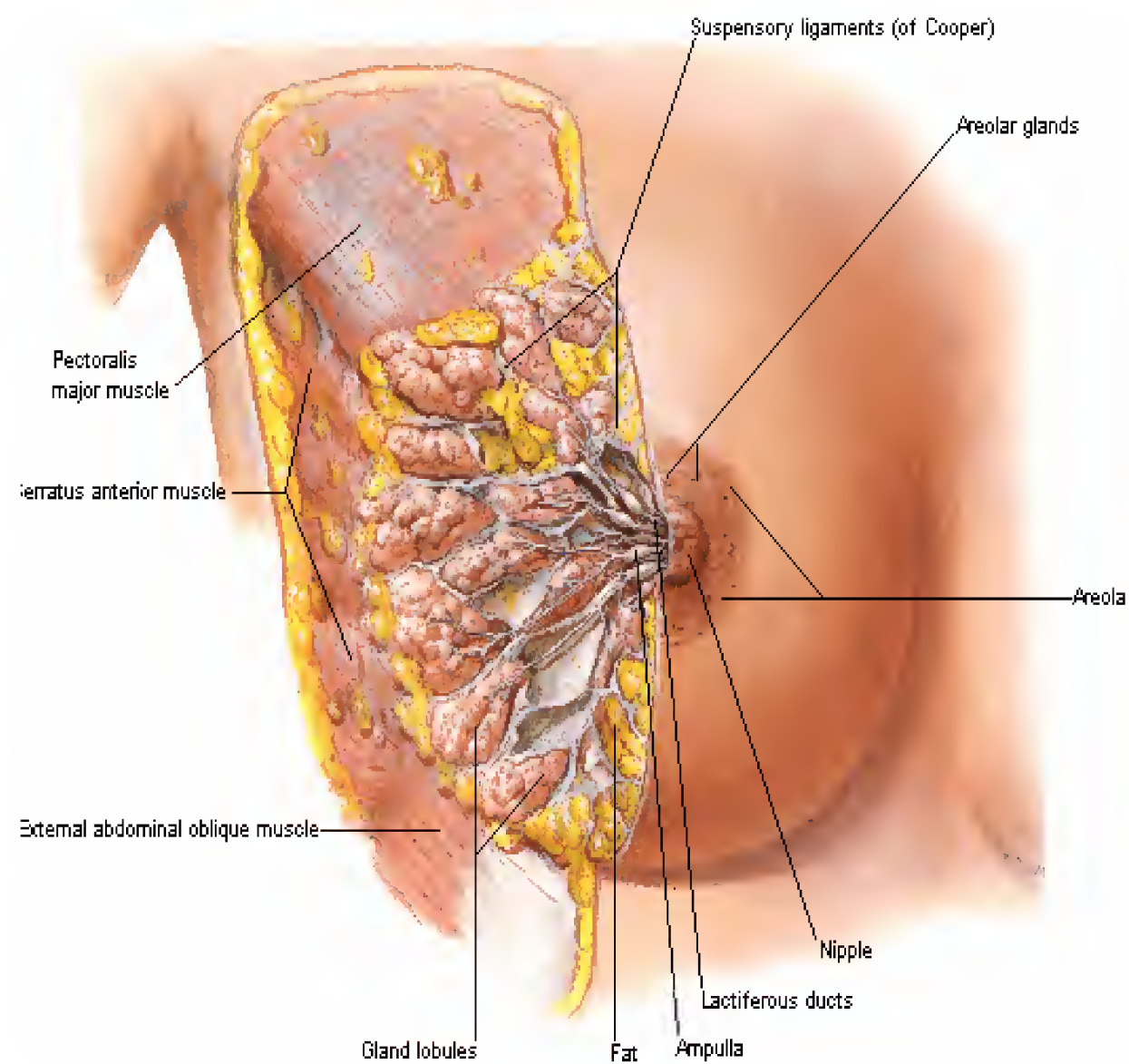


#### \* **Architecture**

- **Breast consists of (15 - 20) lobes** which are arranged in radiating manner & each is drained by a lactiferous duct. the ducts converge at the nipple. A lobe is made up of (20 - 40) **lobules**, each of which consists of (10 - 100) **alveoli**
- **The supporting tissues :**
  - The ducts are attached to underlying pectoral fascia by band of fibrous tissue to the skin called ( **Cooper's ligament** ). This ligament can be involved in fibrotic lesions leading to **skin dimpling**
  - The ducts are surrounded by **contractile myoepithelial cells** which are stimulated by oxytocin & move milk towards the nipple.
- **Nipple : ( 4<sup>th</sup> intercostal space )**  
On its top **15 – 20 opening**, its normal direction is downward, forward & laterally
- **Areola :**  
Thick skin, pink in nulipara, blackens brown with pregnancy. contains sweat & sebaceous glands of **montgomery**.







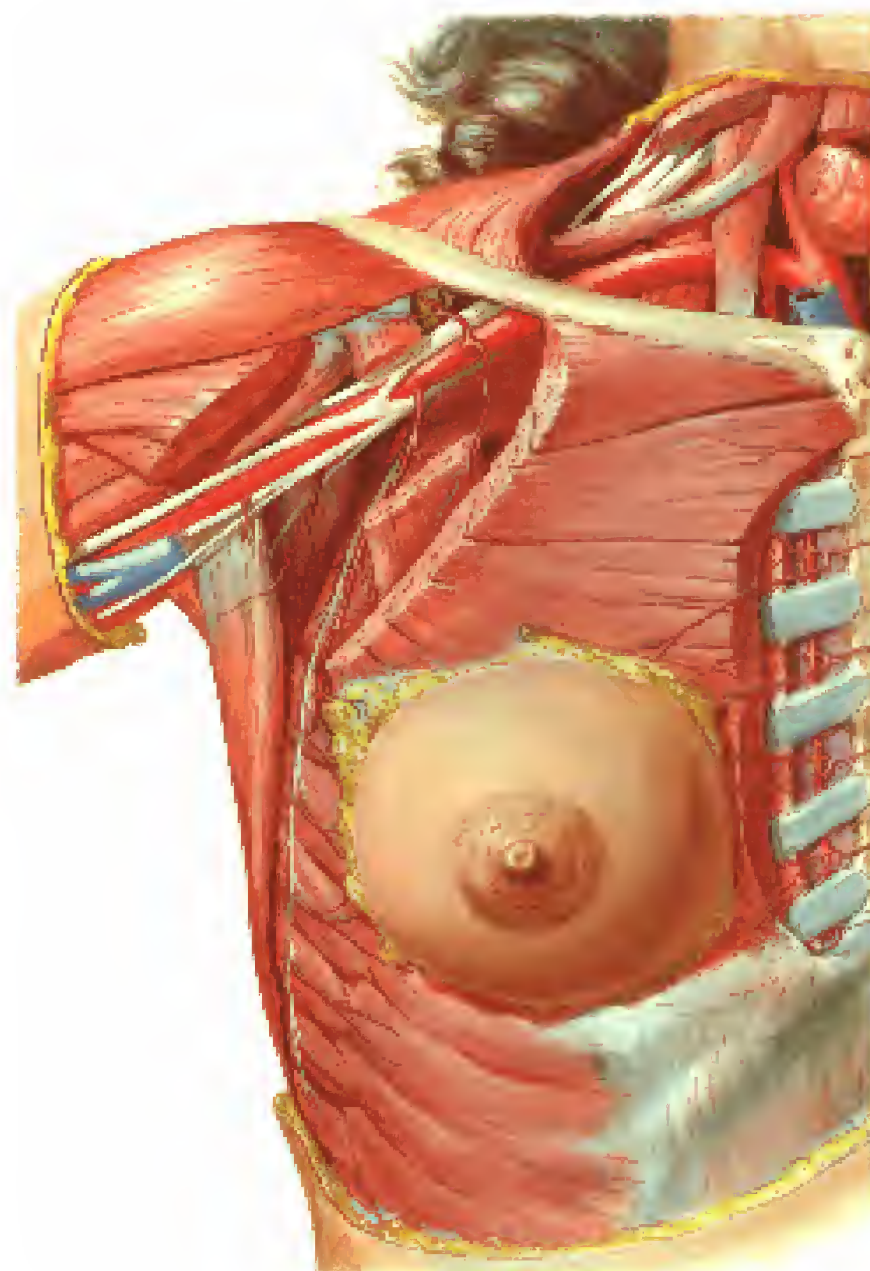
### \* Muscle floor

It lies on **3 muscles**

- Pectoralis major muscle.
- Serratus anterior muscle
- External oblique muscle

### \* Arterial supply

- **Axillary artery** → lat. thoracic artery
- **Internal mammary artery** → 2,3,4 perforators.
- **Intercostal perforators.**



### \* Venous drainage

- **Axillary vein**
- **Internal mammary vein**
- **Intercostal veins**  
( which drain into Azygos system which communicates with **valveless** vertebral veins )

***This explains early vertebral metastasis with cancer breast***



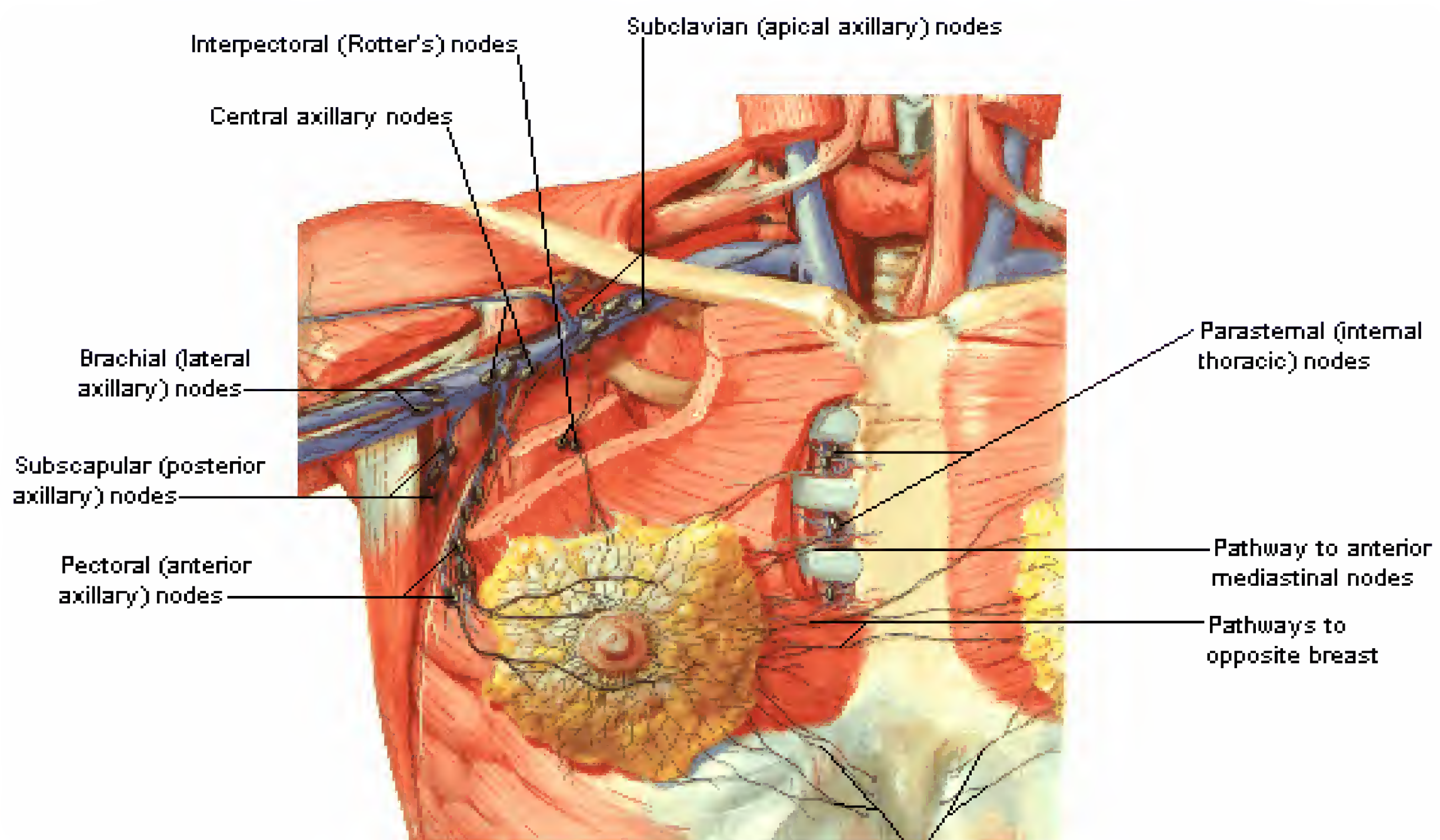
## \* **Lymphatic drainage**

### ◇ **Classic description**

1. **Sub-areolar plexus of sappey :**  
from nipple & areola then drains to deep plexus.
2. **Deep plexus** (over pectoralis)  
from sub-areolar plexus & deep part of the gland then drain to axillary L.Ns & Internal mammary through the pectoralis muscles.

### ◇ **Modern description**

**Lymphatics drain through axillary L.Ns & Internal mammary L.Ns**



## I. **Axillary L.Ns**

**These nodes receive about 75 % of breast lymph. There are on average 35 lymph nodes in the axilla that are arranged into :**

### 1. **THE ANTERIOR ( PECTORAL ) GROUP**

- **SITE** : under cover the pectoralis major along the lateral thoracic vessels at the lower border of the pectoralis.
- **DRAINS** : - chest wall.  
- whole breast except tail.  
- ant. abdominal wall above umbilicus.

### 2. **THE POSTERIOR ( SUB-SCAPULAR ) GROUP**

- **SITE** : along the subscapular vessels.
- **DRAINS** : - axillary tail.  
- post. abdominal wall above umbilicus



### 3. **THE LATERAL ( HUMERAL ) GROUP**

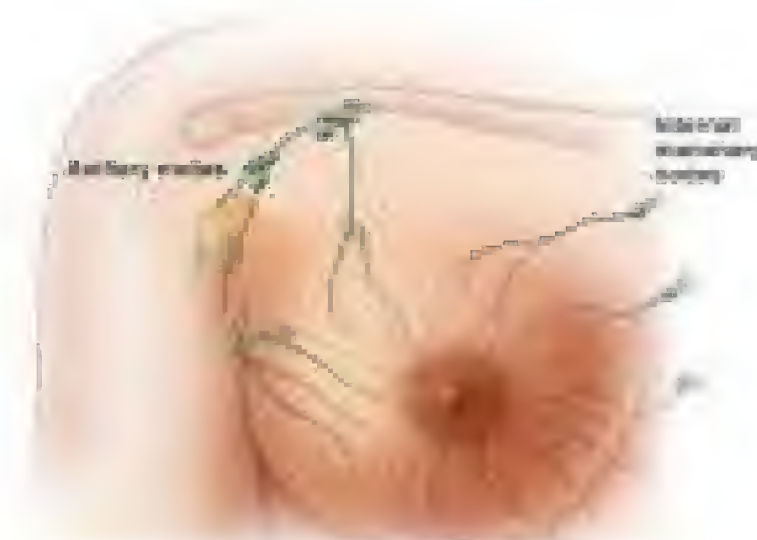
- **SITE** : along the axillary vein (upper part of humerus).
- **DRAINS** : all the upper limb.

### 4. **THE MEDIAL ( CENTRAL ) GROUP**

- **SITE** : central part of axilla (embedded in the axillary fat).
- **DRAINS** : {1},{2},{3}

### 5. **THE APICAL GROUP**

- **SITE** : extreme apex of axilla.
- **DRAINS** : {1},{2},{3},{4}



## II. **Other associated L.Ns**

### 1. **Internal Mammary L.Ns**

They receive part of the lymph from the medial half of the breast

### 2. **Inter-pectoral L.Ns of Rotter** between 2 pectoral muscles

### 3. **Posterior intercostals L.Ns** along neck of ribs & have a minor share

## III. **Further lymphatic spread**

Connection of the lymphatics of the lower inner quadrant of the breast with the peritoneum. Lymphatics pierce rectus sheath → spread to liver leading to liver nodules. then through (Falciform ligament) → umbilical nodules (**Josef sister's nodules**)

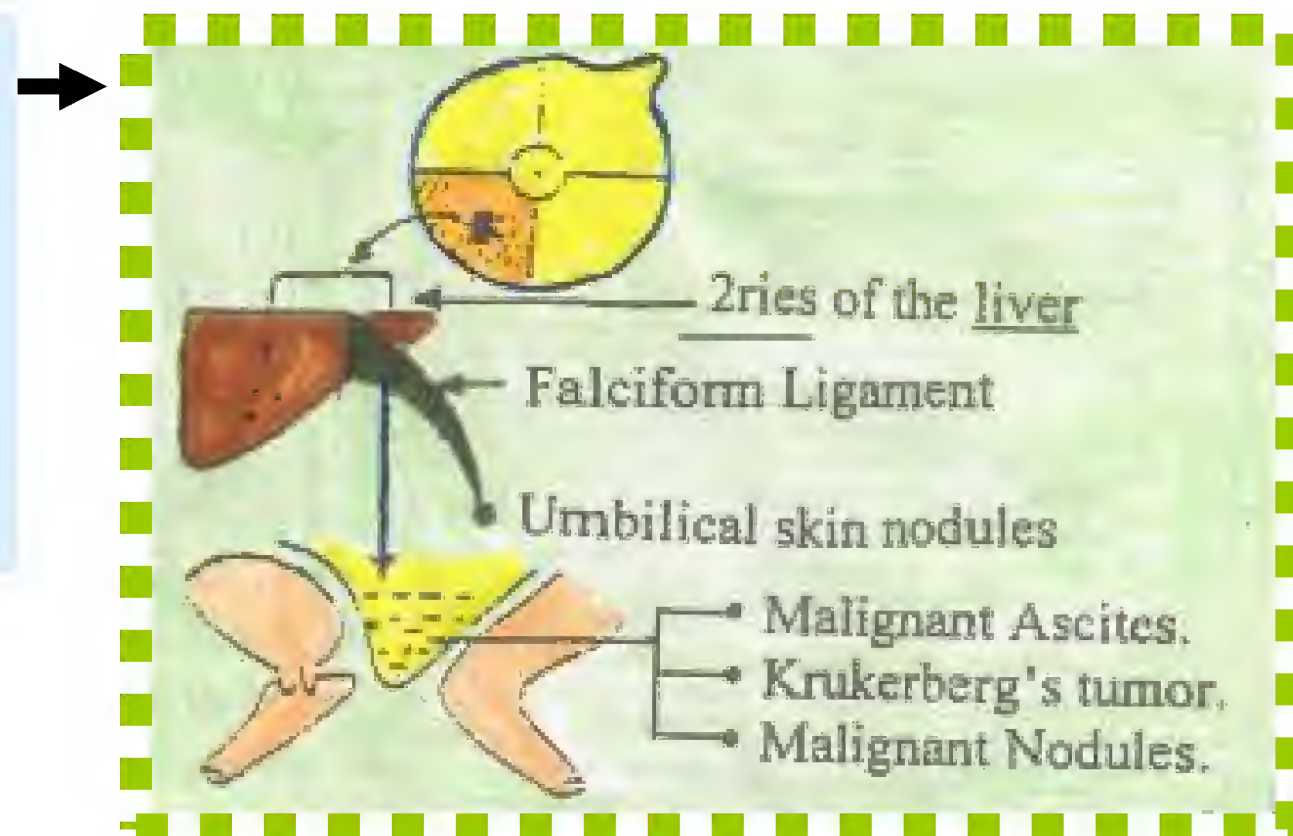
**N.B.: Some malignant cells will lead to**

**Malignant ascites,**

**Krukenberg's tumor**

**& Malignant nodules**

**in the douglas pouch.**



**From prognostic point view** axillary L.Ns are classified by ➤

Pectoralis minor muscle into **3 levels**

- Level I → L.Ns below the muscle
- Level II → L.Ns behind the muscle
- Level III → L.Ns above the muscle

## **The prognostic importance**

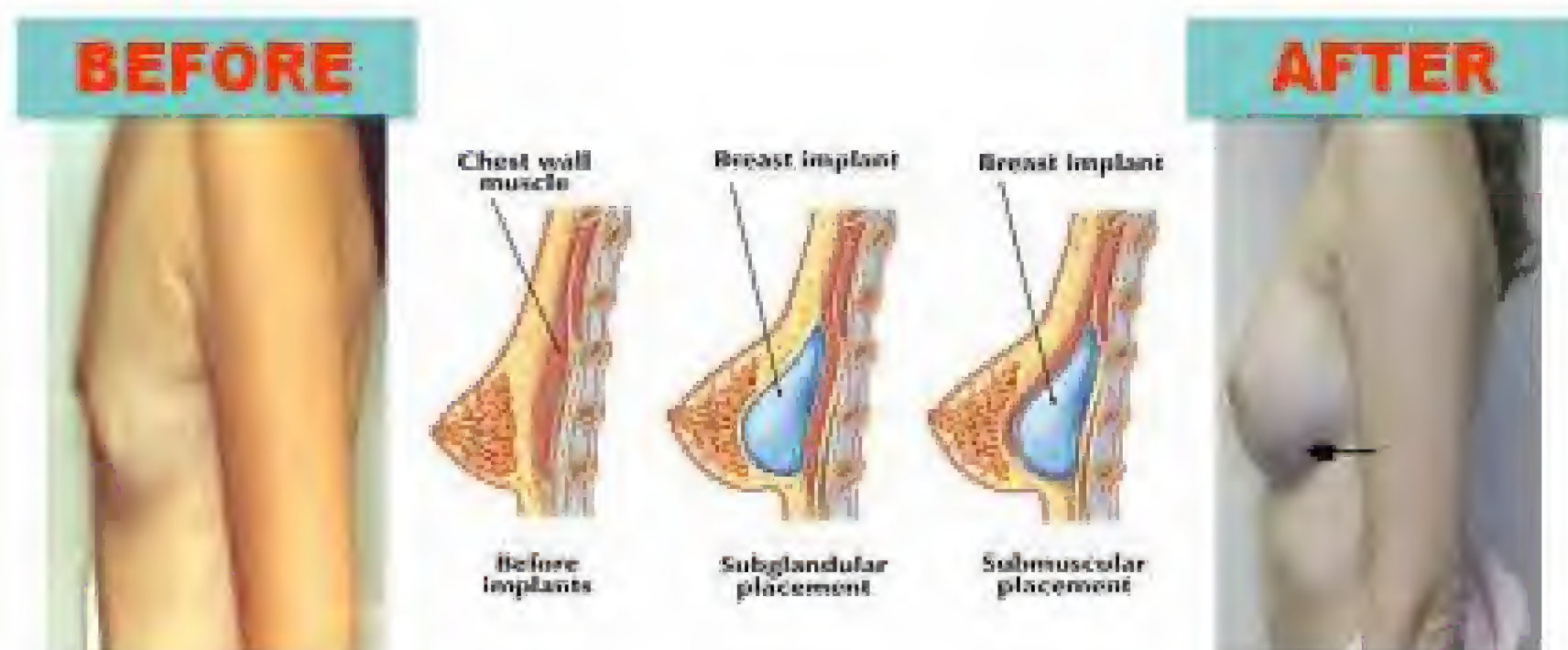
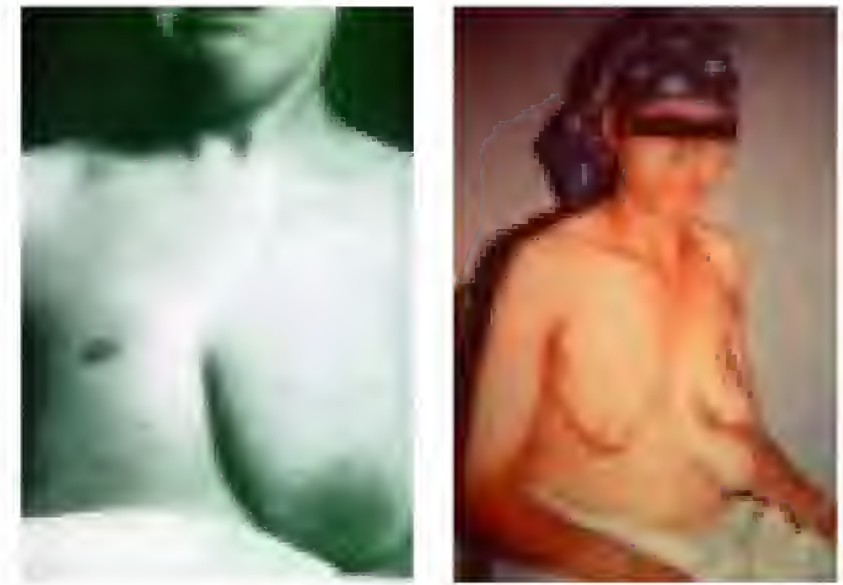
with treatment of cancer breast with adjuvant therapy



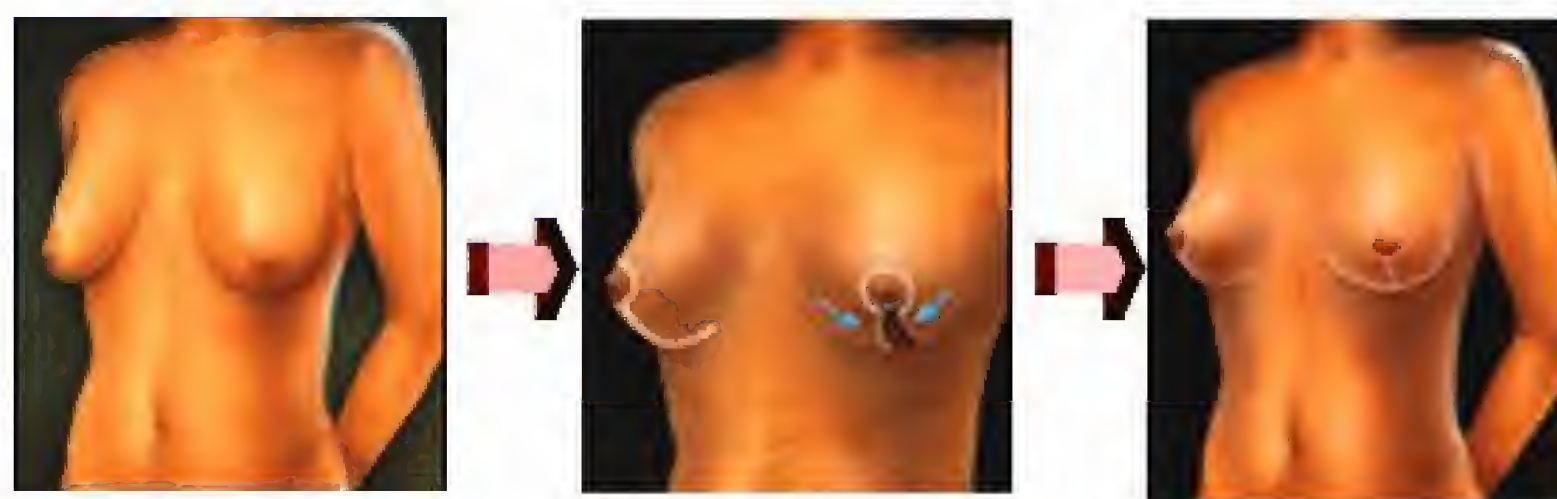
# I- CONGENITAL ANOMALIES

## 1. The Breast

1. **Amazia :**  
absence of breast (unilateral or bilateral)
2. **Polymazia :**  
accessory breast along mammary ridge  
they may function during lactation
3. **Micromazia :** small breast.  
treated by **augmentation** mammoplasty



4. **Diffuse hypertrophy** of the breast  
treated by **reduction** mammoplasty



## 5. Infantile gynaecomastia :

Diffuse enlargement of the male breast which may be unilateral or bilateral. It is caused by the effect of circulating maternal sex hormones. The condition is usually **reversible within 6 months**, and therefore, requires **no** treatment

## 2. The Nipple

1. **Athelia :**  
absence of nipple (very rare).
2. **Polythelia :**  
accessory nipple along mammary ridge  
an accessory nipple may be mistaken  
for a mole or a wart.





### 3. Congenital retraction of the nipple :

➤ It must be differentiated from acquired retraction

	Congenital retraction	Acquired retraction
• History	dating <b>since birth</b> .	recent.
• Side	<b>bilateral</b> > 3/4 of cases	<b>unilateral</b> .
• Mass	<b>no</b> breast mass	presence of breast mass
• Sulcus	absent	present

#### Don't Forget

[ Causes of acquired nipple retraction ]  
due to "**excessive fibrosis**"

1. Mammary duct ectazia.
2. Chronic breast abscess.
3. Carcinoma of the breast.



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## II- TRAUMATIC DISEASES

( very rare )

usually follow a **blunt** trauma

### 1. Traumatic fat necrosis

- **Trauma** → death of some fat cells → liberation of fatty acids which combine with calcium from local tissue fluid → **calcium soaps**

**N.B : Other causes of traumatic fat necrosis :**

- **direct** trauma e.g. needle biopsy
- or • **indirect** trauma e.g. sudden contraction of pectoralis.

- **Calcium soaps :**

- **cyst** containing " thick oily fluid "
- **hard** mass If we do biopsy the cut section will show "characteristic chalky white appearance".

- **Treatment** : Excision & biopsy.

### 2. Breast hematoma

- **Trauma** → blood clot → organization → **fibrosis**
- **Fibrosis** → **hard** mass.
- **Treatment** : Excision & biopsy.



### III- INFLAMMATORY DISEASES

#### A- Acute inflammatory mastitis

##### 1- Acute lactational mastitis & Acute breast abscess



#### Mastitis from milk engorgement

- ★ **Incidence** : 1<sup>st</sup> month of 1<sup>st</sup> lactation.
- ★ **Aetiology** : due to obstruction of duct by dry inspissated milk or epithelial debris.
- ★ **Clinical picture** :
  - **Symptoms** :
    - **General** : Toxic symptoms [ **F**ever, **H**eadache, **M**alaise & **A**norexia ]  
*N.B : Fever is due to absorption of Milk protein (Ag x Ab)*
    - **Local** : dull aching pain.
  - **Signs** :
    - **Diffuse** tense & tender.
    - **No** physical signs of inflammation i.e. no hotness or redness.
    - **No** axillary L.Ns.
- ★ **Fate** :  
[ If neglected ] → acute bacterial mastitis or acute breast abscess.

#### Acute bacterial mastitis

- ★ **Incidence** : 1<sup>st</sup> month of 1<sup>st</sup> lactation i.e. fate from milk engorgement.  
or when baby is at 6 months i.e. development of incisors.
- ★ **Aetiology** :
  - **Predisposing factors** :
    - mastitis from milk engorgement.
    - abrasions of nipple e.g. cracks or fissures.
    - lack of breast hygiene.
  - **Organism** : Staphylococcus aureus (gram +ve).
  - **Route of entry** : organism from baby's mouth.  
much less common (blood born infection).
- ★ **Clinical picture** :
  - **Symptoms** :
    - **General** : toxic symptoms [ **F**ever, **H**eadache, **M**alaise & **A**norexia ]  
*N.B : Fever is due to absorption of Organism (Ag x Ab)*
    - **Local** : dull aching pain but gets worse.
  - **Signs** :



- **Diffuse** tense & tender.
- **Physical signs** of inflammation, e.g. hotness or redness of skin.
- **Axillary L.Ns** : firm & tender (non specific).

★ **Fate** :

[ If neglected ] → acute breast abscess

## Acute breast abscess

★ **Pathology** : milk engorgement + staph. infection → **pus**

★ **Clinical picture** :

➤ **Symptoms** :

- **General** : **toxic** symptoms [ **F**ever, **H**eadache, **M**alaise & **A**norexia ]

***N.B. : Fever is hectic***

i.e. fluctuant & does not reach the basal line at the same day

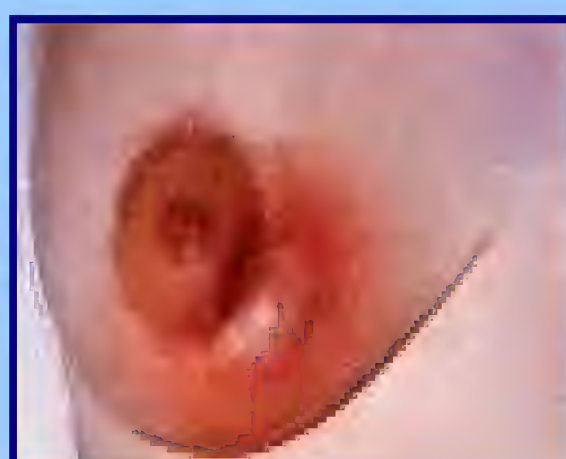
- **Local** : **throbbing** pain which is more at night

➤ **Signs** :

- **localized** tense & tender.
- **physical signs** of inflammation.  
e.g. hotness or redness of skin.
- **axillary L.Ns** : firm & tender (non specific).
- **purulent** discharge
- **pitting oedema** of skin overlying the abscess.
- **fluctuation** is very late.



### Acute bacterial mastitis



### Mastitis carcinomatosa



<b>History</b>	<ul style="list-style-type: none"> <li>• Onset, course &amp; duration</li> <li>• Fever</li> </ul>	<ul style="list-style-type: none"> <li>- <b>acute</b> onset &amp; <b>rapidly</b> progressive course.</li> <li>- <b>high</b> grade fever.</li> </ul>	<ul style="list-style-type: none"> <li>- <b>gradual</b> onset &amp; <b>slowly</b> progressive course.</li> <li>- <b>low</b> grade fever</li> </ul>
<b>Inspection</b>	<ul style="list-style-type: none"> <li>• Skin over</li> </ul>	<ul style="list-style-type: none"> <li>- <b>fiery</b> red.</li> </ul>	<ul style="list-style-type: none"> <li>- <b>dusky</b> red.</li> </ul>
<b>Palpation</b>	<ul style="list-style-type: none"> <li>• Tenderness</li> <li>• Axillary L.Ns</li> </ul>	<ul style="list-style-type: none"> <li>- <b>markedly</b> tenderness.</li> <li>- firm &amp; tender.</li> </ul>	<ul style="list-style-type: none"> <li>- <b>mild</b> tenderness.</li> <li>- hard &amp; not tender</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>• A.B</li> </ul>	<ul style="list-style-type: none"> <li>- cured</li> </ul>	<ul style="list-style-type: none"> <li>- <b>no</b> response</li> </ul>



## TREATMENT OF ACUTE LACTATIONAL MASTITIS & ACUTE BREAST ABSCESS

### A- Prophylactic treatment

- (1) Correct hygiene of breast during lactation.
- (2) Paint the nipple with topical soothing creams.
- (3) The breast should be evacuated completely with each lactation.



### B- Active treatment

#### I. STAGE OF MILK ENGORGEMENT & ACUTE BACTERIAL MASTITIS

i.e. before suppuration [ *no abscess* ]

1. Local heat "hot application".
2. Support of the breast helps to lessen pain
3. An antibiotic against staphylococci e.g. **Flucloxacillin** or **Cephalosporin**.
4. The Advisability of weaning:
  - If baby > 9M → **stop** feeding, the agent in common use is "**Parlodel**" 2.5 mg twice/day.
  - If baby < 9M → **continue** feeding with healthy breast & regular evacuation of diseased one by using a **pump**



#### II. STAGE OF ACUTE ABSCESS FORMATION

i.e. after suppuration [ *don't wait for fluctuation* ]

- **Anaesthesia** : general anesthesia.
- **Incision** :

**N.B : Incision & drainage** according to type of abscess :

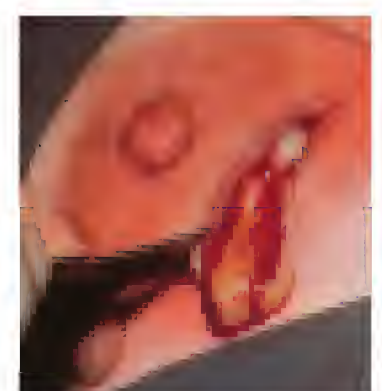


- (1) **Supra (pre) mammary abscess** : incision any where.
- (2) **Intra-mammary abscess** : it may be
  - a. **Radial**: radiating from areolar
  - b. **Circum-areolar** : at margin of areola. 1<sup>st</sup> then radial incision is done so better cosmetic.
- (3) **Retro (post) mammary abscess** :  
incision in sub-mammary fold.



#### ➤ **Technique** :

- 1- surgeon's finger breaks all loculi to form single cavity
- 2 - pus evacuation for culture & sensitivity.
- 3 - drain is brought out through the most dependent part.





## 2- Acute non lactational mastitis

The commonest type of non Lactational mastitis is that which complicates mammary duct ectasia

## 3- Rare types of mastitis

1. **Infected haematoma.**

2. **Infected tumors.**

3. **Mastitis neonatorum (female & male).**

- It is due to retention of mother hormones i.e. (maternal prolactine) stimulates lactation in infant.
- **C/P** : swollen breasts on 3<sup>rd</sup>, 4<sup>th</sup> day with few drops of milk (**witch's milk**)
- It subsides within 2-3 weeks.



4. **Mastitis of puberty (male only)**

- The condition affects adolescent boys → pain + swelling of breast. which becomes indurated but (suppuration **never** occur).



## B- Chronic inflammatory diseases

### 1- Mammary Duct Ectazia

[ **Plasma cell mastitis** ]

#### Definition

Dilatation of major ducts of the breast.

#### Aetiology

Unknown.

#### Pathology

**Chronic inflammation** of duct system leads to dilatation of major ducts which are • Filled by : **Creamy secretions**.  
(atrophic epithelium + fatty material).

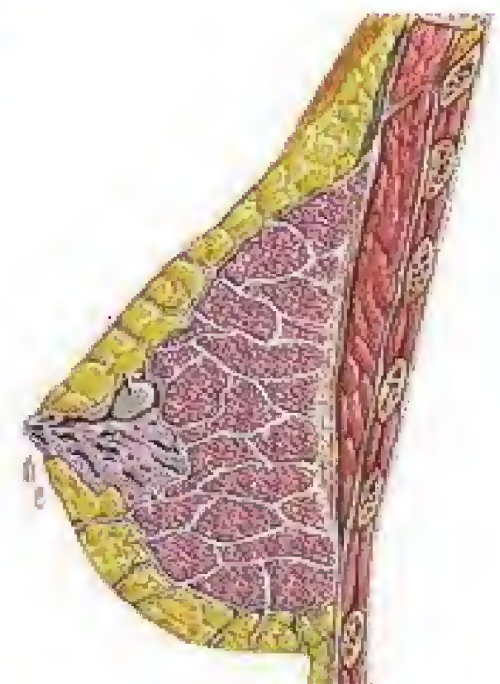
- Surrounded by : Plasma cells  
so (called **Plasma cell mastitis**).

#### Clinical Picture

- **Age** : around or after menopause.
- **Mass** : **hard** mass, may be associated with nipple retraction, peau d 'orange .. etc  
So similar to cancer breast.
- **Discharge** : **Green paste discharge**.

#### Treatment

Excision & biopsy ( to exclude malignancy ).





## 2- Chronic Breast Abscess

### Non specific ( Chronic Pyogenic Breast Abscess )

★ **Definition :**

fate of improper treatment of acute abscess.

★ **Aetiology :**

prolonged use of antibiotics → killing of bacteria  
→ sterile pus → **Antibioma**

★ **Pathology :**

- **cavity** : containing sterile pus
- **wall** : thick fibrous wall.

★ **Clinical picture :**

- **Mass** : **hard** mass, may be associated with nipple retraction, peau d 'orange .. etc  
**So** similar to cancer breast.
- **Discharge**: no discharge.

★ **D.D :**

	Chronic abscess	Cancer breast
• <b>Toxaemia.</b>	- Low grade fever.	- Absent
• <b>Post-surface.</b>	- Rounded.	- Flat.
• <b>History of A.B</b>	- + ve	- - ve
• <b>Paget's test</b>	- may + ve	- - ve

★ **Treatment :**

Excision & biopsy ( to exclude malignancy ).

### Specific ( T.B )

★ **Definition :**

a rare disease with active pulmonary **T.B**

★ **Aetiology :**

Tubercle bacilli (**T.B**)

★ **Pathology :**

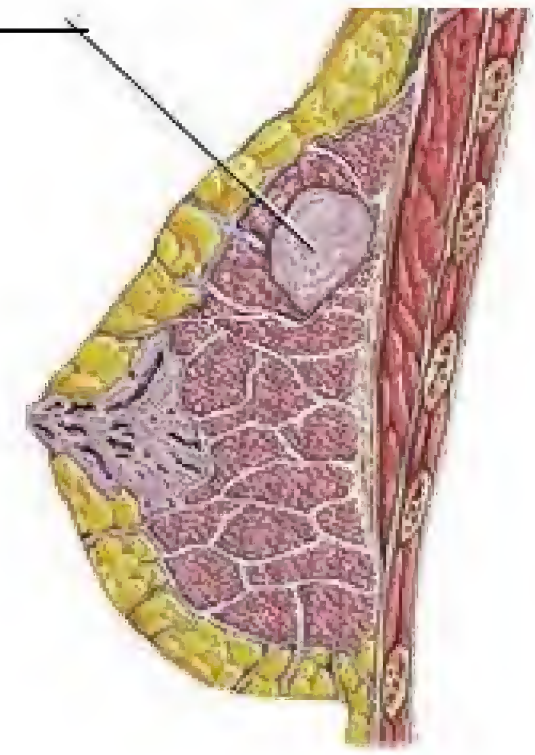
**T.B.** granuloma.

★ **Clinical picture :**

- **History** of (night sweat, night fever, loss of weight & loss of appetite).
- **Mass** : multiple nodules of the breast.
- **Axillary L.Ns** : enlarged & matted.

★ **Treatment :**

**Anti T.B.** drugs + Excision for resistant cases.



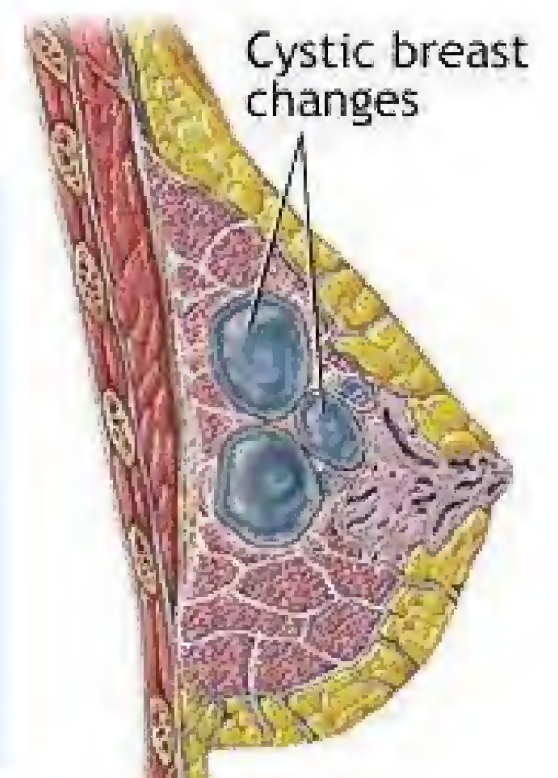


## IV. FIBROCYSTIC DISEASE OF THE BREAST

### FIBROADENOSIS

#### (Other names)

- Mammary dysplasia.
- Mastopathy.
- Chronic interstitial mastitis
- **ANDI** [Aberration of Normal Development & Involution]



#### Incidence

This is the most frequent disorder of the breast. the upper outer quadrant of the breast is the commonest site of affection.

#### Aetiology

[ **Unknown** ] but may be due to oversensitivity of oestrogenic receptors.  
i.e. [ **Relative hyperoestrogenaemia** ]

#### Pathology

[ **An image of pathological action of oestrogen on breast** ]

##### ★ N/E picture :

- **Site** : localized or diffuse.
- **Side** : unilateral or bilateral

##### ★ Microscopic picture : [ **Panplasia** ]

- **Adenosis** : ↑ number of acini.
- **Epitheliosis** :  
Hyperplasia of epithelial lining the ducts  
→ Atypical hyperplasia → Pre-cancerous.

#### N.B: Duct papilloma

It is a localized form of epitheliosis

- **Fibrosis** : Fibrous tissue replaces the fat  
i.e. Sclerosing adenosis

#### N.B: Fibroadenoma

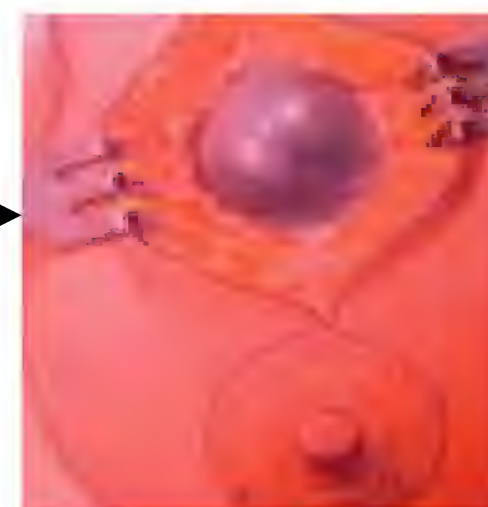
It is a localized form of adenosis& fibrosis

##### • Cyst formation :

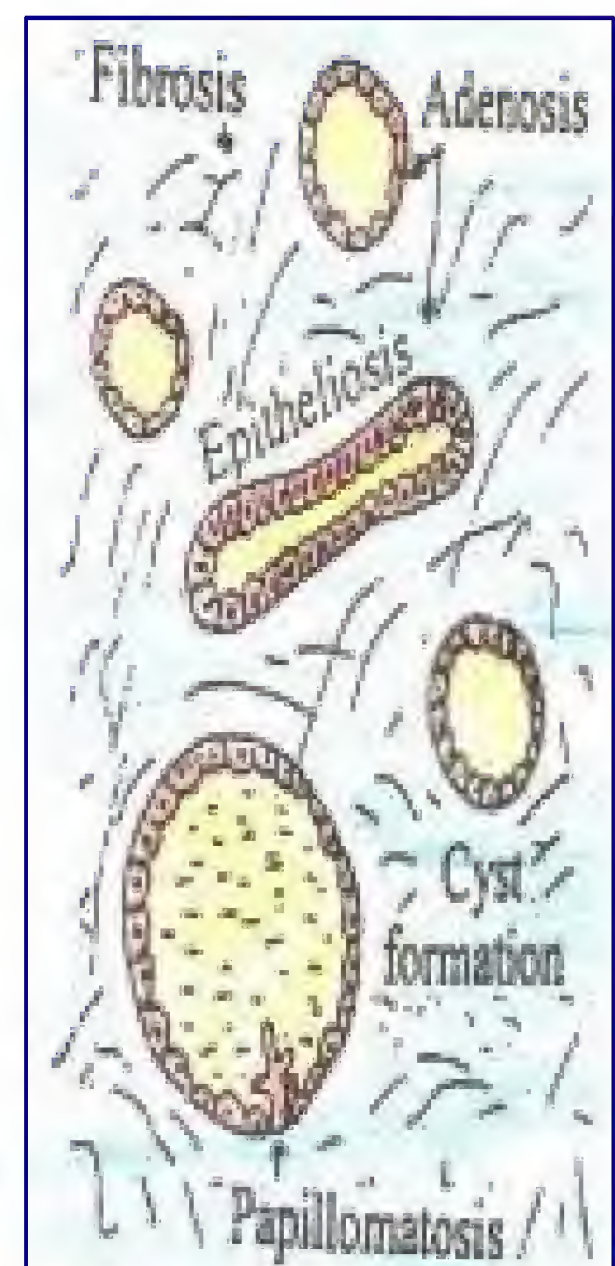
(A) **Microcyst** : degenerating cyst.

(B) **Macrocyst** : retention cyst →  
due to obstruction by :

- **Epitheliosis** from inside.
- **Fibrosis** from outside.



Sometimes **papillomatosis** are seen in the cyst from excess epithelial proliferation





## Clinical picture

★ **Age :**

after puberty or **before** menopause

★ **Symptoms :**

- **Pain :** dull ache. ↑ before, ↓ after menses.

**N.B.:** This pain stops with pregnancy

- **Discharge :** serous, dark, brown or green.
- **Mass :** painful & fixed to breast tissue.

★ **Signs :**

### Breast

- **Tender** & firm or fine nodules by **tips** of fingers
- **Discharge :** by patient herself.
- **Mass :** away from the areola.



### Axillary L.Ns

Firm & tender [ never hard ]

**N.B.: L.Ns enlargement** due to chemical irritation by abnormal hypersecretions from hyperplastic epithelium

## Investigations [ The Aim is to exclude cancer ]

- U/S & soft tissue mammography
- Aspiration & cytology. →
- Biopsy & histopathology.



## Treatment

### (A) **MEDICAL TREATMENT** ( The main ttt )

- Reassurance of the patient
- Advice patient to stop caffeine e.g. stop coffee, tea & chocolate
- Sedatives & tranquilizers.
- Support the breast by tight braces to ↓ pain
- **Parlodel (anti-prolactin) :** 2.5 mg twice per/day.
- **Danazol (synthetic androgen) :** 100 mg twice per/day.
- **Tamoxifen (anti-estrogen) :** 10 mg once daily.

### (B) **SURGICAL TREATMENT**

Excision & biopsy  
indicated with localized mass. →



### (C) **FOLLOW UP** with atypical hyperplasia ( monthly self examination )



## V. BREAST NEOPLASM

### A. BENIGN

- *Epithelial* : **Duct papilloma**.
- *Mixed* : ( Epithelial & Fibrous Tissue ) **Fibroadenoma**.

### B. MALIGNANT

## A. BENIGN NEOPLASM

### 1- DUCT PAPILLOMA

#### Incidence

Common at 30- 40 years.

#### Aetiology

[ **Benign tumor of epithelial cells** ] It may be

- from the start i.e. de novo.
- or on top of excessive localization of **epitheliosis** of fibroadenosis.

#### Pathology

- **N/E Picture** : usually single & arises from main lactiferous duct near the nipple
- **Microscopic picture** : core of very **vascular C.T** covered by hyperplastic epithelial layer.

#### Clinical picture

- **Age** : 30 - 40 years.
- **Symptoms** : - **Bleeding** per nipple  
- **Retro-areolar** mass i.e. retention cyst
- **Signs** : - Retro-areolar mass  
- Localize the duct by palpation of each quadrant

#### Complications

- Malignant transformation i.e. **duct carcinoma**.
- Profuse **bleeding** per nipple.

#### Investigation

##### DUCTOGRAPHY

Retro-areolar **filling defect** in major duct.

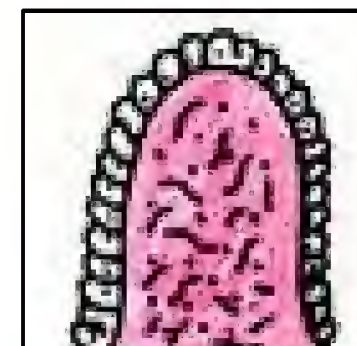
#### Treatment

##### MICRODOCHECTOMY

**Excision of the affected duct through circum-areolar incision**

- If there is a lump, the excision is easy.
- If there is **no** lump, the duct is identified by inserting a blunt tipped needle

**The excised specimen should be histologically examined**





## 2- FIBROADENOMA

### Incidence

Commonest breast mass of young female.

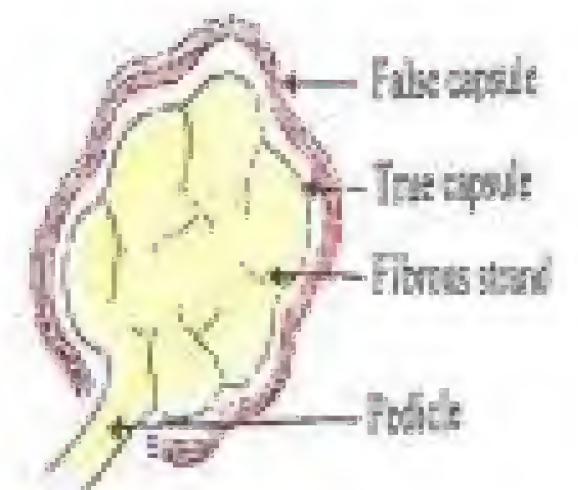
### Aetiology



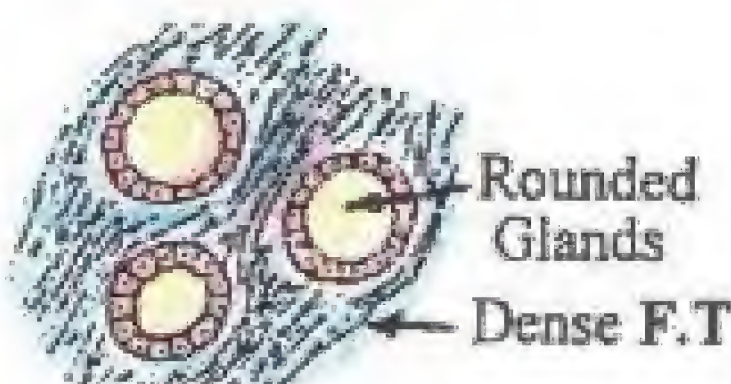
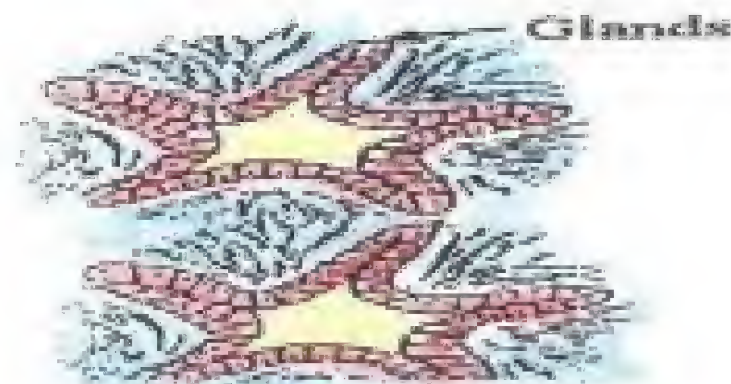
[ Benign tumor of epithelial cells + fibrous tissue ] It may be

- from the start i.e. de novo.
- or on top of excessive localization of **adenosis** & **fibrosis** of fibroadenosis.

### Pathology

- The tumor is ( well capsulated )
  - **True capsule** : showing fibrous bands dividing it into lobules
  - **False capsule** : formed by compressed breast tissue.
- There are 2 types :



	<b>Hard fibroadenoma</b> ( Peri-canalicular )	<b>Soft fibroadenoma</b> ( Intra-canalicular )
• <b>N/E Picture</b>	attached to its capsule by <b>one</b> pedicle. 	attached to its capsule by <b>multiple</b> pedicles. 
• <b>Microscopic Picture</b>	ducts are <b>surrounded</b> by fibrous tissue 	ducts are <b>compressed</b> by fibrous tissue 

### Clinical Picture

• <b>Age</b>	<b>20 - 30 years</b>	<b>30 - 40 years</b>
• <b>Symptoms</b>	<ul style="list-style-type: none"> <li>• painless mass.</li> <li>• <b>slow</b> rate of growth i.e. malignancy is <b>rare</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• painless mass.</li> <li>• <b>rapid</b> rate of growth i.e. malignancy is <b>common</b></li> </ul>
• <b>Signs</b>	<ul style="list-style-type: none"> <li>• <b>firm</b> to hard &amp; not tender.</li> <li>• well defined edge.</li> <li>• mobile (<b>breast mouse</b>)</li> <li>• <b>no</b> L.Ns enlargement</li> </ul>	<ul style="list-style-type: none"> <li>• <b>soft</b> &amp; not tender.</li> </ul>

### Complication

• <b>Malignancy</b>	• <b>never</b>	• commonly → <b>sarcoma</b>
---------------------	----------------	-----------------------------



## N.B: Cystasarcoma phylloides :

### ➤ The name :

- The term cystasarcoma, however, is a misnomer as many are **not** cystic & it is **not** sarcoma.
- It better termed " **Phylloides tumor** "
- It was so named by " **Brodie** " who was used the term **Phylloides** because the cut surface resembles a leaf or a fan



### ➤ Pathology :

- It is highly cellular type of fibroadenoma that tends to grow rapidly

### ➤ Examination :

- It is giant soft fibroadenoma.
- Ulcerate through skin but not attached to it
- No axillary L.Ns except if infected.



### ➤ Treatment :

Wide local excision or Simple mastectomy

## Investigations

Soft tissue mammography

## Treatment

- **Hard** fibroadenoma : Excision & biopsy.
- **Soft** fibroadenoma :
  - If small : Excision & biopsy
  - If large : Simple mastectomy

## B. CARCINOMA OF THE BREAST

### 1- Incidence

35% of total malignancies of **Egyptian**  females.

### 2- Risk Factors

#### A - GENETIC FACTORS

- Accounts for **5 – 10 %** of all breast cancer.
- Presence of breast cancer in a mother or sister ↑ risk **3** times.  
While presence of cancer in both mother & sister ↑ risk **14** times.
- **2 Genes are associated:**
  1. **BRCA I** ; long arm of chromosome **17** associated with breast, ovarian & colon cancer
  2. **BRCA II** ; long arm of chromosome **13** associated with breast & ovarian cancer



## B - ENDOCRINAL FACTORS

- **Early** menarche < 13 years.
- **Delayed** menopause > 50 years.
- Female get 1<sup>st</sup> pregnant > 30 years.
- The relations to **oral contraceptive pills** is not known exactly.
- **Obesity** as adipose tissue converts steroid hormones to estradiol.
- Female with cancer to **one breast**.

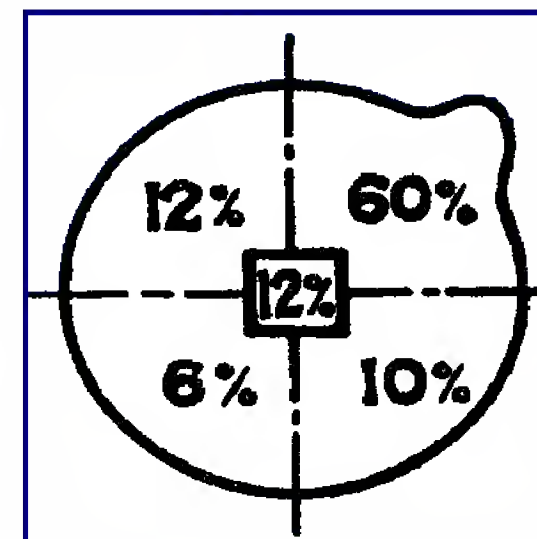
## C - PRECANCEROUS LESIONS

- Relations to **duct papilloma** ↑ risk 1.5 - 2 times.
- Relations to **atypical hyperplasia** of **fibroadenosis** ↑ risk 2 - 5 times.
- Relations to **lobular carcinoma in situ (LCIS)** or **duct carcinoma in situ (DCIS)** ↑ risk 5 - 10 times.

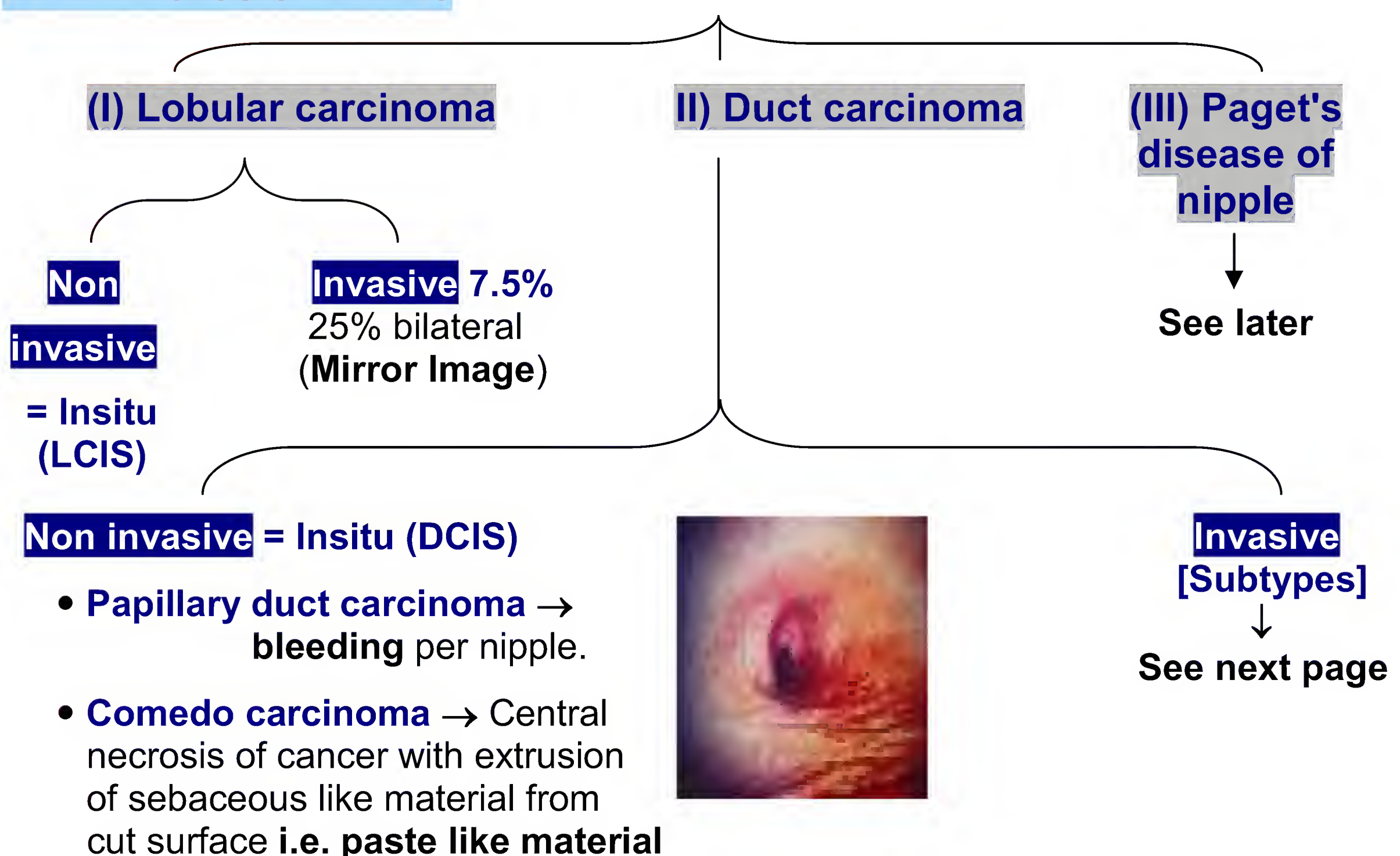
## 3- Pathology

### A - SITE

- Upper outer ( 60% ) **The commonest**
- Lower outer ( 10% )
- Upper inner ( 12% )
- Retroarolar ( 12% )
- Lowe inner ( 6% ) **The rarest & worst** → spread to sub-diaphragmatic lymphatics



## B – PATHOLOGICAL TYPES





## Invasive Duct Carcinoma

	1. <b>ScirrhouS Ca</b> ( 75% )  ScirrhouS = Hard	2. <b>Atrophic scirrhouS</b>  Atrophic = old female
• N/E picture	<ul style="list-style-type: none"> <li>small, hard &amp; irregular mass.</li> <li><b>C.S:</b> → Gritty, concave, pale &amp; non capsulated</li> </ul>	<ul style="list-style-type: none"> <li>growth very slow.</li> <li>spread very late.</li> </ul>
• Microscopic picture	<ul style="list-style-type: none"> <li>fibrous tissue is more than malignant cells which is undifferentiated hence the name <b>NOS</b> ( <b>N</b>ot <b>O</b>therwise <b>S</b>pecified )</li> <li>areas of Hge &amp; necrosis.</li> </ul>	<ul style="list-style-type: none"> <li>fibrous tissue is the main constituent with minimal malignant cells.</li> <li>areas of Hge &amp; necrosis.</li> </ul>
• Prognosis	<b>good</b> if early diagnosed	<b>very good</b> because of slow growth & late spread

	3. <b>Encephaloid Ca.</b> 10%  = Brain like	4. <b>Mucinous Ca.</b> 3%  = Colloidal Ca.	5. <b>Inflammatory Ca.</b> v. rare  = Mastitis carcinomatosa
• N/E picture	<ul style="list-style-type: none"> <li>large, soft &amp; irregular mass.</li> <li><b>C.S:</b> → soft, convex or bulging &amp; non capsulated</li> </ul>	<ul style="list-style-type: none"> <li>soft, gelly like material</li> <li>usually bulky</li> </ul>	<ul style="list-style-type: none"> <li>large, soft mass.</li> <li>very rapidly growing tumor.</li> </ul>
• Microscopic picture	<ul style="list-style-type: none"> <li>malignant cells more than fibrous tissue</li> <li>areas of Hge &amp; necrosis.</li> <li><b>lymphocytic infiltration</b></li> </ul>	<ul style="list-style-type: none"> <li>spheroidal cells, distended with mucoid material.</li> <li><b>Signet ring</b> like.</li> </ul>	<b>N.B.:</b> 1. <b>D.D.:</b> From Acute mastitis 2. occurs during pregnancy & lactation.
• Prognosis	<b>better than</b> scirrhouS because of lymphocytic infiltration	the <b>best</b> prognosis.	the <b>worst</b> prognosis.

### N.B

#### HORMONAL RECEPTORS

- About **60%** of breast cancers have receptor for estrogen & termed **ER +ve**
- These tumors are hormone dependant & respond to hormonal treatment.



### III. Paget's disease of the nipple

#### Incidence

1% with female > 40 years.

#### Definition

**Malignant eczema** of nipple & areola followed by duct carcinoma after 2 years.

#### Aetiology

**Malignant erosion** caused by duct carcinoma

#### Pathology

➤ **N/E picture** : [Malignant eczema]

unilateral with well defined margin.

➤ **Microscopic picture** :

1. Round cell Infiltration [**dermis**].
2. Hyperplasia [**all epidermis**].
3. **Paget's cells** [ **deep epidermis**]  
clear vacuolated cells with small  
**dark stained nuclei** ↗

#### Clinical Picture

**2 Types may be present**

(1) **Ulcerative Type.**

(2) **Eczematous Type.**



**Ulcerative Type**



**Eczematous Type**

#### D.D.

<b>Paget's disease</b> ( <b>Malignant eczema</b> )	<b>Dermatitis</b> ( <b>Ordinary eczema</b> )
<ul style="list-style-type: none"> <li>• <b>Old</b> female.</li> <li>• <b>Unilateral</b>.</li> <li>• Erosion.</li> <li>• <b>No</b> (Itching &amp; oozing).</li> <li>• Start in the <b>nipple</b>.</li> <li>• Breast lump may be felt.</li> <li>• <b>Not</b> respond to eczema treatment.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Young</b> female.</li> <li>• <b>Bilateral</b>.</li> <li>• <b>No</b> erosion.</li> <li>• Itching &amp; oozing.</li> <li>• Start in the <b>areola</b>.</li> <li>• <b>No</b> lump.</li> <li>• Respond to eczema treatment.</li> </ul>

#### Staging

Paget's disease **alone** = ( **stage I** )

#### Treatment

**Radical mastectomy**

**N.B.:** Paget's disease is **radio-resistant**.

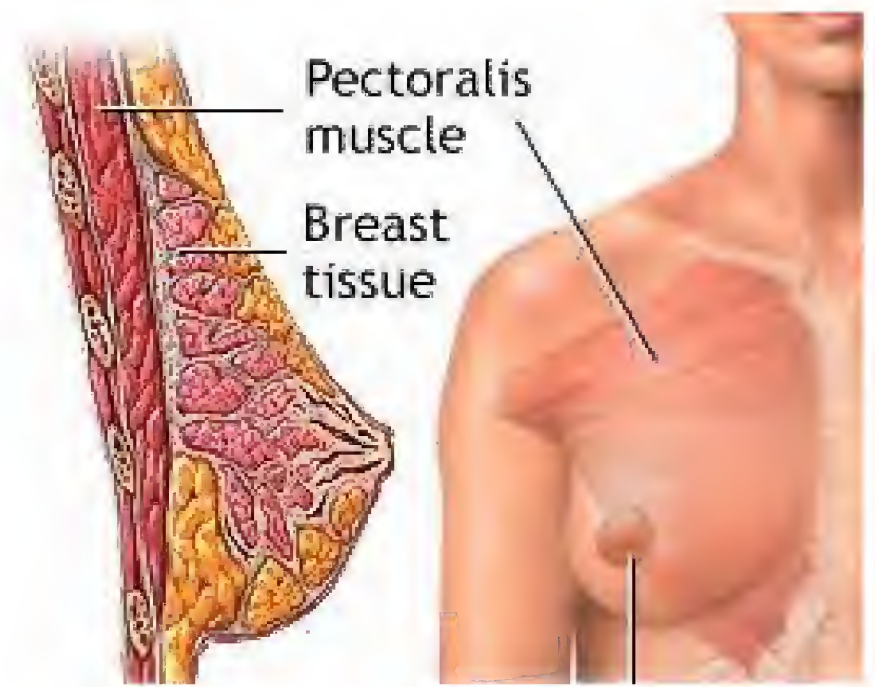
#### Prognosis

Paget's disease **alone** = **good** prognosis



#### 4- Spread

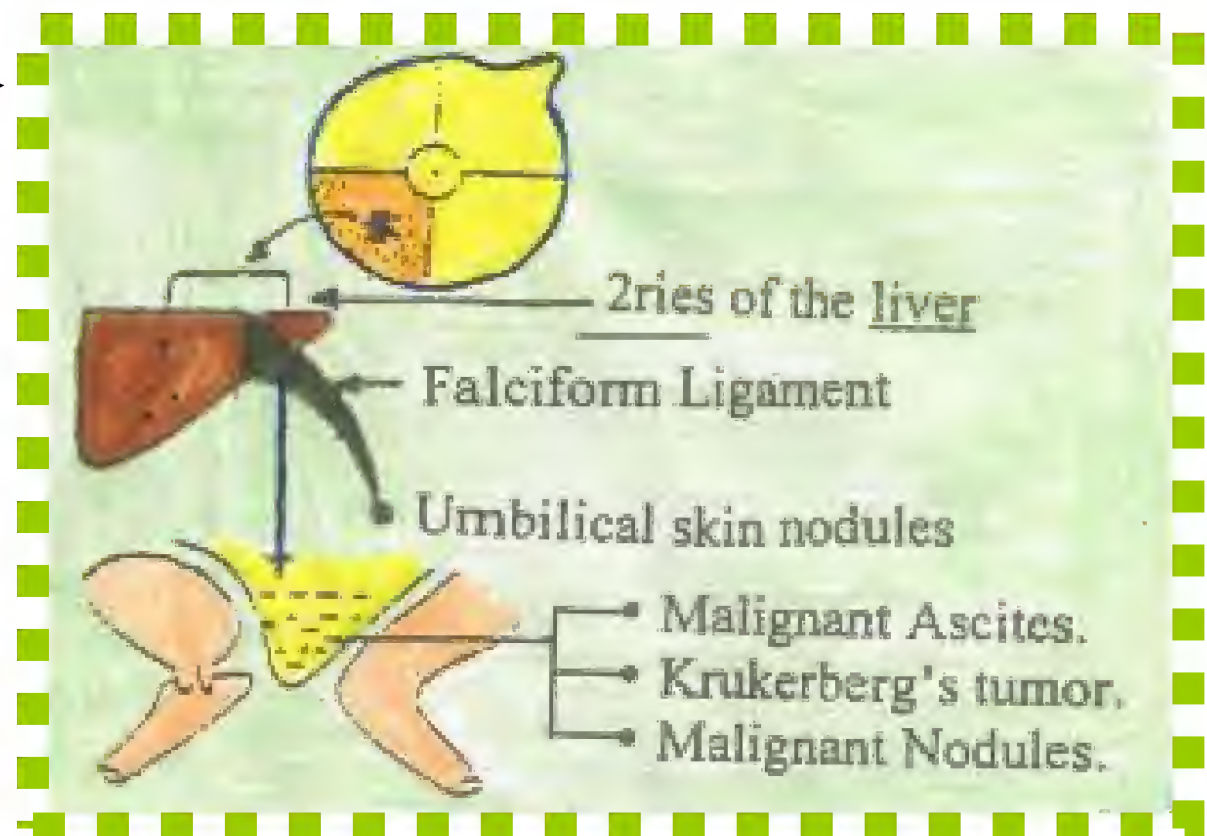
1. **Direct** : [ skin, underlying muscle & chest wall ].
2. **Blood** : [ **L**iver, **B**one, **L**ung & **B**rain ].
3. **Lymphatic** :  
[ by **Embolization & Permeation** ].  
➤ through axillary L.Ns →  
internal mammary L.Ns →  
supra-clavicular L.Ns.



#### ★ DON'T FORGET

Connection of the lymphatics of the lower inner quadrant of the breast with the peritoneum. Lymphatics pierce rectus sheath → spread to liver leading to liver nodules. then through (Falciform ligament) → umbilical nodules (**Josef sister's nodules**)

**N.B.:** Some malignant cells will lead to  
**Malignant ascites,**  
**Krukenberg's tumor**  
& **Malignant nodules**  
in the douglas pouch.



#### 5. Staging

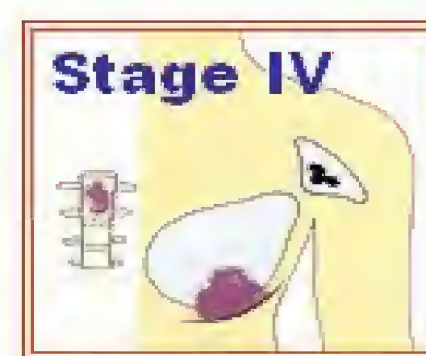
##### [1] T.N.M Staging

<b>T = Tumor</b>	<b>N = Nodes</b>	<b>M = Metastasis</b>
<b>Tis</b> = Ca in situ <b>T0</b> = No evidence of 1ry tumor. <b>T1</b> = < 2 cm. <b>T2</b> = 2- 5 cm <b>T3</b> = > 5 cm <b>T4</b> = Any size with direct extension to chest wall or inflammatory carcinomatosa	<b>N0</b> = No palpable L.Ns. <b>N1</b> = Mobile axillary L.Ns. <b>N2</b> = Fixed axillary L.Ns. <b>N3</b> = Palpable <b>homolateral</b> supra-clavicular L.Ns.	<b>M0</b> = <b>No</b> distant metastasis <b>M1</b> = <b>Distant</b> metastasis



## [II] Manchester Classification

	<b>Tumor</b>	<b>L.Ns</b>	<b>Metastasis</b>
<b>Stage I</b>	• <b>Mobile</b> breast mass.	• <b>NO</b>	• <b>NO</b>
<b>Stage II</b>	• <b>Mobile</b> breast mass.	• <b>Mobile</b> (at same side).	• <b>NO</b>
<b>Stage III</b>	• <b>Skin</b> involvement. • <b>Pectoralis muscles</b> are involved. • <b>No</b> Chest wall involvement.	• <b>Fixed</b> (at same side). • + supraclavicular L.Ns	• <b>NO</b>
<b>Stage IV</b>	• <b>Skin</b> involved e.g. cancer en cuirasse • <b>Pectoralis muscles</b> are involved. • <b>Chest wall</b> is involved	• Involved at <b>opposite</b> side of axilla.	• <b>Metastasis</b> mainly Bone



**Stage I & II = Operable & Stage III & IV = Inoperable**

### 6- Clinical picture

★ **Age :**

commonly at **40 - 60** years + **risk factors** ( [discuss](#) ).

★ **Symptoms :**

#### [A] **General symptoms**

(may be the 1<sup>st</sup> presentation) i.e. **occult** carcinoma.

- **Lung:** chest pain, cough, dyspnea & haemoptsis.
- **Bone :** mass in skull, backache & pathological fracture.
- **Liver:** pain at Rt. hypochondrium & Jaundice.
- **Brain :** extremely rare.

#### [B] **Local symptoms**

- **Hard**, painless mass, **discovered accidentally**.
- **Rapid rate** of growth.
- **Discharge :**
  1. **Blood** If duct carcinoma.
  2. **Necrotic crystals** If degenerating carcinoma



➤ **Signs :**

[A] **General signs**

- To detect Metastasis ( Liver, Bone, PR, PV & ... etc ).

[B] **Local signs**

(1) **Mass :**

- **Hard** not tender mass.
- **Circumscribed** edge ( hard mass inside soft breast ).
- **Flat** under surface ( local spread Ant. > Post. ).
- **Fixed** to skin & +/- chest wall.

(2) **L.Ns :**

[Hard, enlarged, 1<sup>st</sup> mobile later on fixed]



(3) **Breast :**

**SKIN MANIFESTATIONS**



1. **Dimpling & puckering :**

- due to contracture of **Cooper's ligaments**.

2. **Nipple retraction & deviation :**

- due to excessive fibrosis [ **not pathognomonic** ]



3. **Peau d'orange : [ Pitting oedema ]**

- due to obliteration & compression of lymphatic by excessive fibrosis [ **not pathognomonic** ]



4. **Cancerous skin nodules :**

- due to lymphatic spread. It may be near or far from tumor e.g. around umbilicus.



5. **Cancer en cuirasse : [ Advanced stage ]**

- It means hard, thick skin, metallic brown & stretched as [ **War-shield** ]



6. **Ulceration & fungation :**

- Raised everted edge with necrotic floor.

7. **Paget's disease of nipple ( see before )**

8. **Mastitis carcinomatosa ( see before )**

9. **Dilated veins** over the skin of the breast.



## 7- Differential diagnosis

### 1. D.D. from nipple retraction

- Carcinoma.
- Duct ectazia.  
[ history of **green** paste discharge ].
- Chronic breast abscess  
[ history of acute abscess & A.B intake ].

### 2. DD. from bloody discharge

- Duct carcinoma
- Duct papilloma

### 3. D.D from hard mass

- Carcinoma.
- Duct ectazia.  
[ history of **green** paste discharge ].
- Chronic breast abscess  
[ history of acute abscess & A.B intake ].
- Traumatic [ history of trauma ].
- Hard fibroadenoma [ breast mouse ].



## 8- Investigations

### A. Soft tissue mammography

- Cancer appears as a **dense** opacity.

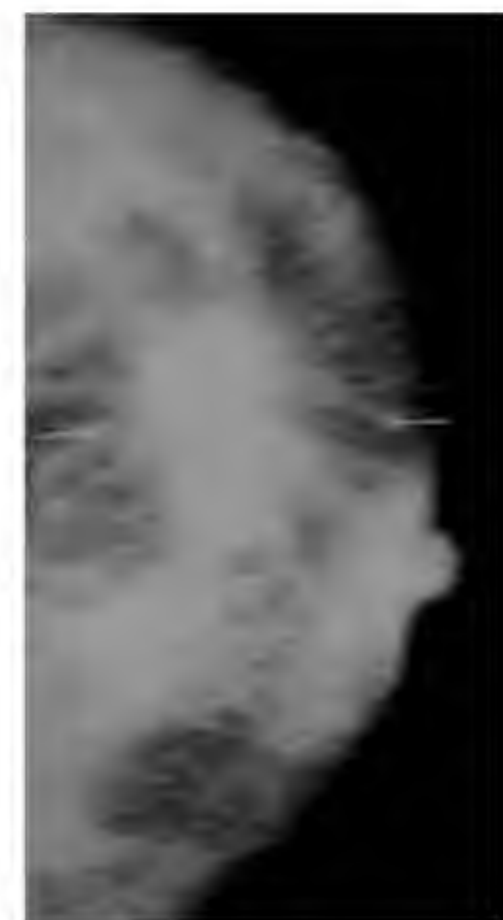
**N.B. : Mammography is of less value**  
with young female ( < 18 years )  
because of similarity of lesion  
to the dense breast

#### • Indications :

1. Screening for **high** risk group.
2. Search for **occult** cancer in female with metastatic disease.
3. Evaluate **non** palpable breast lump.
4. Evaluate **opposite** breast with cancer in the other breast.

#### • Mammagraphic findings suggestive of malignancy :

1. Microcalcification (**Stipling sign**)
2. Irregular outlines from irregular **spicules** penetrate surrounding breast.
3. Increase **vascularity** of the breast.
4. Nipple **retraction**.





## B. Ultrasonography

Both U/S & Mammography are complementary to each other.

- It can differentiate solid from cystic mass.
- It is useful in young women .



## C. Diagnostic procedures (Biopsy)

- **Excision biopsy** : ( The most reliable )  
but under general anaesthesia.
- **Frozen section biopsy** : diagnosed within 20 min while patient is under anesthesia ( **if +ve** → Radical mastectomy ).
- **Tru-cut biopsy** : under local anesthesia by a special needle which cuts a core of tumor tissue.  
Its disadvantages are : 1. take a false tissue.  
2. may disseminate malignancy.
- **Fine Needle Aspiration Cytology (FNAC)** :
  1. **Advantages** : 90% accurate, very simple & inexpensive.
  2. **Disadvantages** : a skilled cytologist is needed.



## D. MRI of the breast

- It is a gold standard for women with synthetic implants

## E. Detection of distant metastasis

- **Lung** → plain x-ray.
- **Brain** → CT scan & MRI.
- **Liver** → U/S & liver function tests.
- **Bone** → bone scan.

## F. Detection of tumor markers

- **CA 15-3** : Cancer Antigen. (prognostic rather than diagnostic)

## 9- Early detection

This aims at the detection of breast cancer very early in the asymptomatic females

### A. Breast Self Examination (BSE)

- All woman over age 20 should be advised to examine their breasts monthly.
- The physician instructs the women as how to conduct a systematic inspection & palpation.
- The woman suspects the presences of a lump, skin dimpling, or nipple retraction .





## B. Screening programs

In some Western countries high risk women are subjected to regular clinical examination & mammography. The frequency of examination is every one, two, or three years, depending on the program

### 10- Treatment

#### A. Operable (Early) Stage I & II : $\leq T_2, N_1, Mo$

#### Different surgical options + Adjuvant systemic therapy if +ve Axillary L.Ns

##### ➤ Stage I : Modified Patey's mastectomy + follow up

###### ■ Follow up :

- **Aim to detect** : 1. Local recurrence or metastasis.  
2. Any post-operative complications.
- **Time** → after ttt then every 3 months at 1<sup>st</sup> 2 years  
then every 4 months for the next 3 years.  
then yearly



##### ➤ Stage II : Modified Patey's mastectomy + adjuvant systemic therapy

###### ■ Radiotherapy : To [ ↓ local recurrence ]

- To** 1. Mediastinal region for internal mammary L.Ns.  
2. Supraclavicular region for supraclavicular L.Ns.

###### ■ Chemotherapy : To [ ↓ late blood born metastasis ]

- By** 1. **CMF** : **C**yclophosphamid, **M**ethotrexate & 5 **F**lurouracil  
2. Adriamycin.

**Indicated with ER -ve** female

###### ■ Hormonal : to [ ↓ growth of tumor ]

**By** Tamoxifen or Progestin

**Indicated with ER +ve** female.



## Idea about

## SURGICAL OPERATIONS

### 1. ( QUART ) or ( W.L.E ) operation

A. **QUART** = **Q**uadrentectomy + **A**xillary L.Ns. removal + **R**adiotherapy.

B. **W.L.E** = **W**ide **L**ocal **E**xcision with 1 cm safety margin

It is suitable for :

- ① Small masses < 4 cm
- ② Big breast
- ③ Young female
- ④ Well differentiated tumor
- ⑤ Carcinoma in situ



**QUART**



**W.L.E**

### 2. Radical mastectomy of ( Halsted )

#### ➤ Removal of :

1. Elliptical part of skin with nipple & areola
2. Whole breast tumor
3. 2 Pectoralis muscles.
4. All axillary L.Ns & fat medial to axillary vein

#### ➤ Preservation of

- 1- Axillary vessels
- 2- Cephalic vein
- 3- Nerve to serratus anterior
- 4- Nerve to latissimus dorsi.



**Radical Mastectomy**

### 3. Extended radical mastectomy ( **Not done nowadays** )

Same as Halsted + removal of internal mammary L.Ns., through median sternotomy.

### 4. Modified radical mastectomy of ( Patey ) ( **Most widely accepted** )

Same as Halsted but

- ① we preserve pectoralis major muscle.
- ② Pectoralis minor either removed or cut at its insertion, or retracted to expose the axilla.

#### N.B.: 1. Post-operative complications:



#### [I] **HAEMATOMA OR WOUND INFECTION**

#### [II] **OEDEMA OF UPPER LIMB**

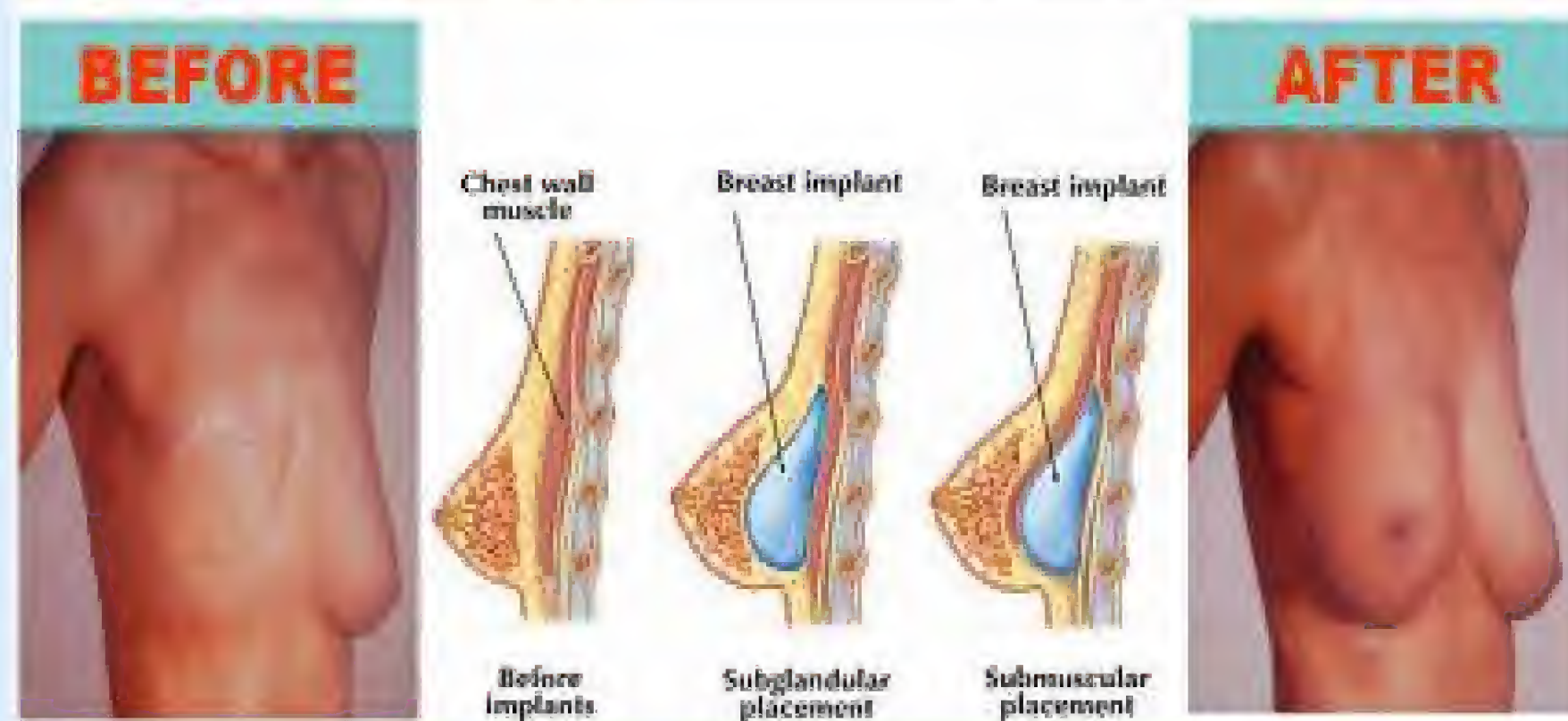
- **Early pitting odema:** (within **few days**) due to removal of excess lymphatics,
- **Late non pitting odema** (within **few months**) due to
  1. Recurrence of axillary L.Ns.
  2. Arm infection.
  3. Axillary radiotherapy.

#### [III] **BRIDLE SCAR** limitation of abduction.



## N.B.: 2. Breast reconstruction :

by **SILICONE PROSTHESIS**



or **MYOCUTANEOUS FLAP**

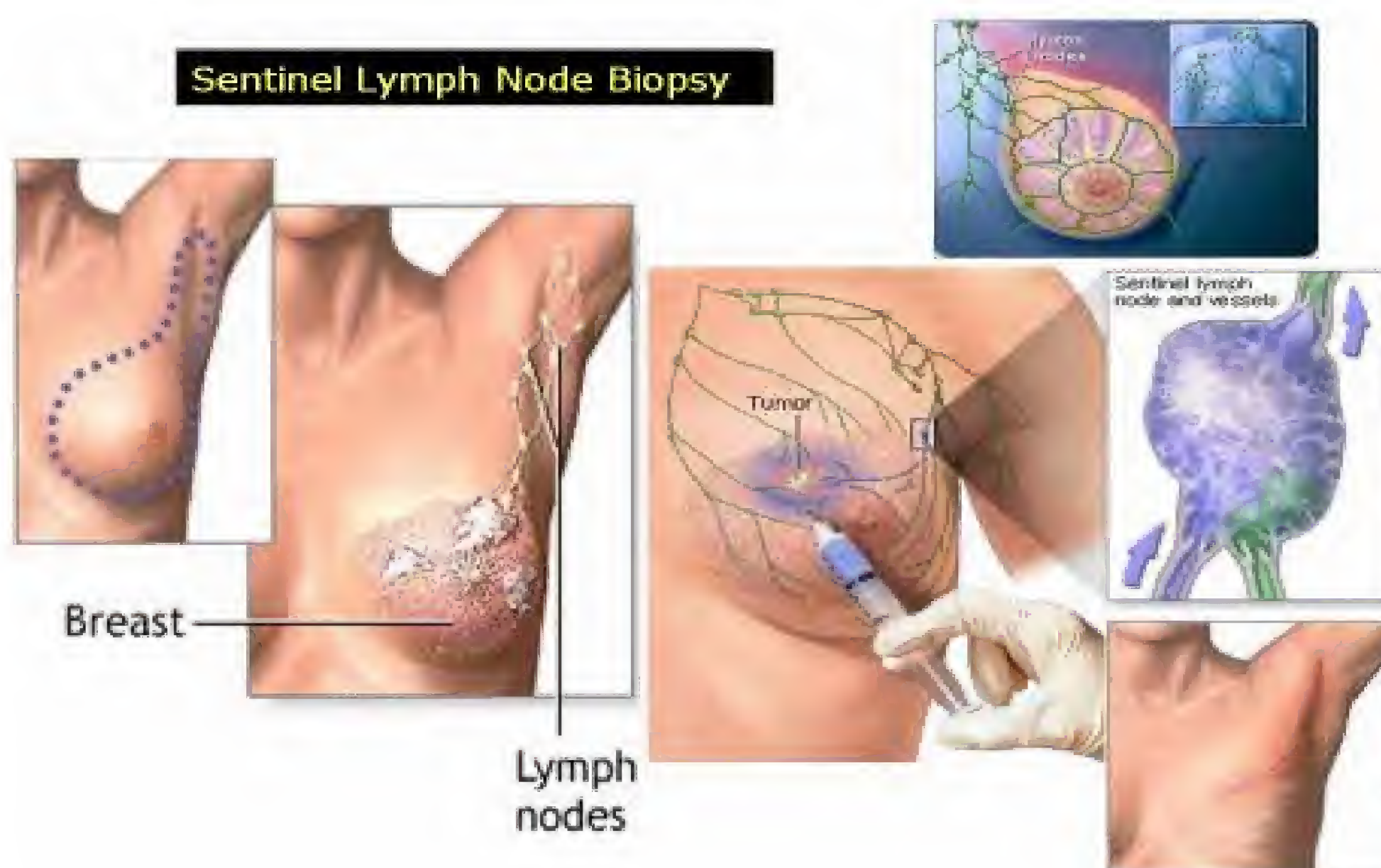
as Rectus abdominis  
or Latissimus dorsi flap.



## 5. Axillary surgery

### **SENTINEL LYMPH NODE BIOPSY**

The **sentinel lymph node** is localized per-operative by injection of a **blue** dye near the tumor. The dye will pass to the 1ry node draining the tumor area, which can be detected by **gamma** camera. then biopsy & histologically examined.





## B. Inoperable (Advanced) Stage III & IV : > T<sub>2</sub>, N<sub>1</sub>, Mo

### ➤ Stage III :

#### [1] LOCAL TREATMENT ( The main )

- **Radiotherapy** : To 1. Mediastinum  
2. Supraclavicular region  
3. **Axilla**
- **Surgical indication** [ for fungating mass ]  
through palliative simple mastectomy  
( **Toilet mastectomy** )

#### [2] SYSTEMIC TREATMENT

- **Chemotherapy ( CMF & Adriamycin )**
  - ( 6 cycles ) for ( 6 months )
  - Indicated especially : 1. rapidly progressive disease.  
2. failure of hormonal treatment.  
3. **ER -ve** female

- **Endocrinal treatment :**

60 % cancer breast cases have receptors for estrogen so termed ( **ER +ve** ) which become :

- **More** active in presence of this hormone
- **Less** active in absence of this hormone

**Temporary response** for anti-oestrogen after 24-30 months occur especially with post-menopausal female or **ER +ve**.

### ➤ Endocrinal treatment as :

- **Tamoxifen ( Nolvadex )** : 1<sup>st</sup> line of ttt.
- **Anastrozole ( Aramidex )** : 2<sup>nd</sup> line of ttt  
if relapsed after Tamoxifen
- **Ovariectomy** : as an alternative to get ride of oestrogen source in pre-menopausal female.
- **Aminoglutathemide** : drug producing suppression.  
for adrenal cortex i.e. ↓ oestrogen  
( if the patient develops relapse after ovariectomy ).

***N.B. : Hydrocortisone** must be given with Aminoglutathemide.*

### ➤ Stage IV :

#### [1] LOCAL TREATMENT

- **Radiotherapy** for any malignant deposits
- **Surgical indication**
  - **Excision** of skin nodules.
  - **Internal fixation** for pathological fracture.



[2] **SYSTEMIC TREATMENT** ( The main )

- **Chemotherapy**  
( CMF & Adriamycin )
- **Endocrinal treatment :**  
(Tamoxifen, Anastrozole.... etc. )

As above

[3] **TREATMENT OF METASTASIS**

- **Liver** metastasis : **C**hemotherapy.
- **Brain** metastasis : **R**adiotherapy  
+ Corticosteroids (↓ Intra-cranial tension)
- **Lung** metastasis : **C**hemotherapy.  
(**pleural effusion**) chest tube + cytotoxic  
bleomycine through it. i.e. **pleurodesis**.
- **Bone** metastasis : **R**adiotherapy  
+ Internal fixation if pathological fracture

**N.B. : Management of cancer breast during pregnancy :**

- **During 1<sup>st</sup> & 2<sup>nd</sup> Trimester** : Radical mastectomy  
+ termination of pregnancy.
- **During 3<sup>rd</sup> Trimester** : Radical mastectomy + let  
the pregnancy proceed to full term then  
radiotherapy is postponed after delivery.



**11. Prognosis**

1. **Type** of tumor : Paget's & cancer situ are **better than** Mastitis carcinomatosa.
2. **Stages** of tumor : Stage I is **better than** Stage II, III or IV.
3. **Sites** of tumor : Lateral side is **better than** Medial side.
4. **Age** of patient : Old age is **better than** Young [ because of sex hormones ]
5. **Sex** of patient : Cancer female is **better than** Cancer male.
6. **Hormone receptors** : ER +ve are **better than** ER -ve.
7. **Size, mobility & number of lymph nodes** : involved ( pathology )
  - Patients with – **ve L.N** → 10 years survival = **65%**
  - Patients with **less than 4 +ve nodes** → 10 years survival = **38%**
  - Patients with **more than 4 +ve nodes** → 10 years survival = **13%**

**Sarcoma of the breast**

- **Incidence** : 0.5 % of malignant breast tumors.
- **Pathology** : De novo
- **C/P** : It grows rapidly & usually fungates through skin.
- **Treatment** : Simple mastectomy + Radiotherapy & chemotherapy.
- **Prognosis** : Very bad.



## VI. NIPPLE DISCHARGE

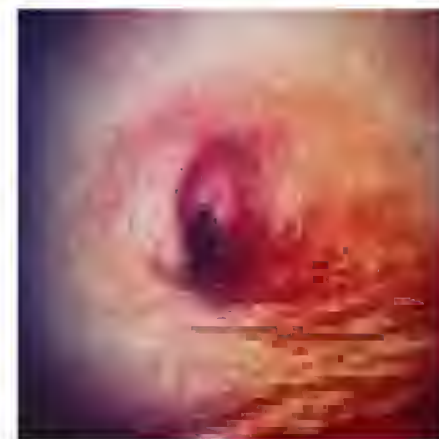
### Aetiology

#### ■ Physiological

1. **Milky** discharge : during lactation
2. **Serous** discharge : during pregnancy

#### ■ Pathological

1. **Purulent** discharge : Acute breast abscess
2. **Green paste** discharge : Duct ectazia
3. **Serous, dark, brown or green** discharge : Fibroadenosis
4. **Bloody** discharge :
  - Duct papilloma
  - Duct carcinoma
5. **Necrotic crystals** : Degeneration carcinoma
6. **Milky** discharge :
  - Galactoceles
  - Contraceptive pills
  - Hyper-prolactinaemia



### Diagnosis

- **History**
- **General Examination**
- **Local Examination**
  - especially for 1. Nature & side of discharge.
  - 2. Associated mass
  - 3. Age of patient
  - 4. Use of contraceptive pills
  - 5. Use of drugs as prolactin

### Investigations

- **Soft tissue mammography**
- **Ductography** : **Lipidol** injection shows filling defect if mass is present
- **Biopsy & Cytology** for mass
- **Serum prolactin level**
- **Tests for occult blood in discharge** through [ **Benzedrine test** ]



### Treatment

- **If Mass is associated**
  - Excision & biopsy
- **If No Mass is associated**
  - Localized ducts : **Microdochectomy**
  - Many ducts (rare) : **Cone excision** of major ducts.



## VII. BREAST MASSES

### (1) Breast cysts

#### Aetiology

##### (A) **Stroma** [ inter-acinar cysts ]

- **Traumatic** : Blood cyst.
- **Inflammatory** : Cold abscess (T.B) or acute abscess.
- **Neoplastic** : Degeneration carcinoma.
- **Parasitic** : Hydatid cyst.
- **Miscellaneous** : Skin cyst e.g. sebaceous cyst, lymphatic cyst .....etc.

##### (B) **Duct** [Acinar cysts]

- **Fibrocystic disease** : e.g. Cyst of blood-good
- **Retention cyst** : e.g. Duct papilloma
- **Galactocoele** :
  - retention cyst blocked by ( Inspissated milk )
  - sometimes shows **Milky discharge**
  - it affect lactating female.

#### Treatment

##### (A) Aspiration + Cytology

- (B) **Excision** If :
1. Rapid refilling after aspiration
  2. Residual mass after aspiration
  3. **Bloody** aspirate

### (2) Solid swellings

##### [A] **Hard** masses :

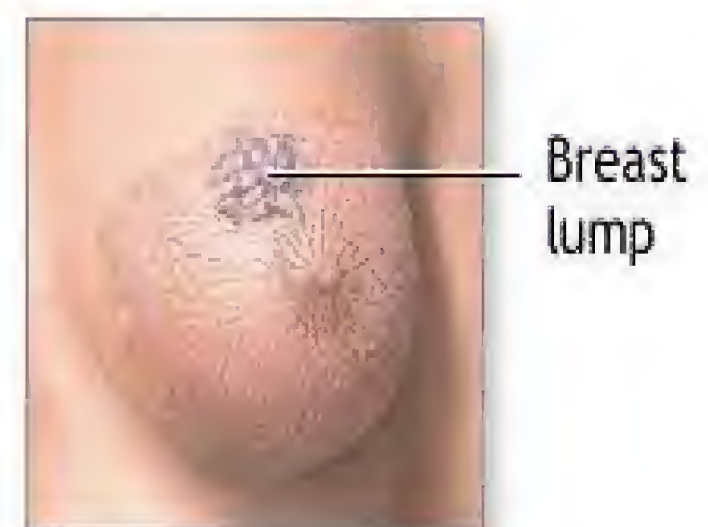
1. Traumatic disease.
2. Chronic breast abscess.
3. Mammary duct ectasia.
4. Hard fibroadenoma.
5. Cancer breast ( Scirrhou & Atrophic scirrhou )

##### [B] **Soft** masses :

1. Soft fibroadenoma.
2. Cystasarcoma phylloids.
3. Cancer breast ( Encephaloid & Mucinous )

##### [C] **Firm** mass :

1. Fibroadenosis.
2. Hard fibroadenoma.



#### **N.B.: Causes of huge breast**

- |                                   |                       |
|-----------------------------------|-----------------------|
| 1. Diffuse hypertrophy of breast. | 2. Soft fibroadenoma. |
| 3. Cystasarcoma phylloids.        | 4. Sarcoma.           |



## DISEASES OF MALE BREAST

### (1) Gynaecomastia

#### Definition

generalized enlargement of the glandular element of the male breast.

#### Aetiology

##### ■ Physiological

- **Infantile** : from maternal sex hormones.
- **Pubertal** : resolves within 2 years when adult testosterone level is reached
- **Senile Gynaecomastia** :  
from ↓ testicular functions with age.

##### ■ Pathological

- ↓ **Testosterone** : e.g. Orchidectomy.
- ↑ **Oestrogen** : e.g. Supra-renal tumor.
- ↓ **Metabolism of Oestrogen** : e.g. Liver cell failure.
- **Ectopic Hormones** : e.g. Bronchial carcinoma.
- **Drugs**: e.g. Digitalis, Cimitidin, Aldactone



#### Clinical picture

- **Symptoms** : unilateral or bilateral, tender mass (i.e. like a **disc**).
- **Sign** : Enlargement of the male breast with prominent nipple due to hypertrophy of the glandular tissue. .

#### Investigations

- Hormonal profile & liver function tests .
- **Biopsy** if doubt of cancer.

#### Treatment

- **Medical (mainly)** : 1. **Physiological** : Reassurance.  
2. **Pathological** : Treatment of the cause.
- **Surgical** : If persists → **S.C. mastectomy**.

### (2) Carcinoma of male breast

**Incidence** Male : Female = 1 : 100 ( 1% of all cancer breast )

#### Staging

#### Treatment

**Prognosis** **Worse than** cancer female due to early spread to chest wall ( **no** breast fat )

} **Similar to cancer female breast** but  
castration is the main hormonal treatment

